THE

AMERICAN FARMER:

DEVOTED TO

AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

(FIFTH SERIES.)

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

Vol. I. BALTIMORE, JULY, 1859. No. 1.

JULY.

"It is a sultry day; the sun has drunk
The dew that lay upon the morning grass,
There is no rustling in the lofty elm
That canopies my dwelling, and its shade
Scarce cools me. All is silent save the faint
And uninterrupted murmurs of the bee,
Settling on the sick flowers, and then again
Instantly on the wing.
* * * * * *
Gentle and voluble spirit of the air
O come and breathe upon the fainting earth
Coolness and life."

It is hot, hot summer weather. The sun which lately wooed the earth so gently, causing her first to bloom in bridal beauty, and then to bring forth at his embrace, now, like a capricious and angry lord, visits her with fierce displeasure, and threatens the very offspring of his love. The tender flower withers, the grass perishes, the merry bird hides its head in silence, and he who should have cherished seems only a minister of wrath. It is just now when the meek nursing-mother is fainting at his presence, that the blessed summer wind,

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comes from a happier clime, breathing coolness and comfort. "Thou hearest the sound thereof, but canst not tell whence it cometh or whither it goeth."

So is that Holy Influence the "Comforter," that He who has gone to prepare a better place for his people should send; who manifested at first with the power of a "rushing mighty wind" is still always present; not seen but felt; now in gentle breathings on the troubled heart, now in whisperings of His love, and always with "refreshing from His presence." Let the summer wind remind us of this lesson.

WORK FOR THE MONTH.

WHEAT HARVEST.

The harvest, if not yet completed, will demand of course all your care. You cannot lay aside the crop of grain until it is made entirely secure against weather. The utmost diligence must be used in every stage of it, that it be made secure at the earliest time. The general practice of putting the wheat in "shocks" is very defective, and a great deal of grain is lost during a wet season by sprouting. The most skilful hand should be employed in this work. The method of setting up the grain in "dozens," when well done as described in our last July number, is, in our opinion, to be preferred. If well put up, they are not liable to be thrown down, and the water, instead of soaking in, as in badly made shocks, is readily dried off. The points to be observed in putting up these "dozens" is, having them *bound firmly* in moderate sized sheaves, to set them well together, *not leaning*, but perpendicular, and press the heads in well while the cap sheaves are put firmly on. Two hands should work together in doing it.

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Securing the Crop.—Buckwheat is very liable to waste in harvesting by shattering. It should be cut when the dew is on, or in moist weather, and put into small cocks in the field for some time. It is very liable to mould if stowed too early in the barn. It is very easily threshed. Every farmer should have enough for his family use at least, and every farmer's wife should know how to make good buckwheat cakes and *butter to match*.

CORN.

But little is to be said about the Corn crop, as it is to be hoped the working is completed. If you must, however, work it in this month, keep the implement as far off from the corn as your work will allow. *Cultivate alternate rows.* That is, go over your field, leaving every other row untouched, so that every hill of corn will have its roots on one side uncut. Then begin again, going through the rows not worked before; by this time those roots first cut will have recovered in a measure from the damage done them.

TOBACCO.

The Tobacco crop will demand the strictest attention during the month. The "weeding" should be done at the earliest possible time after the plants are started. During the hot dry days, the least rough usage will disturb and destroy the plant. Pushing therefore against the plant with the hoe to scrape away the grass should not be allowed, yet the utmost care should be observed to clear away the least sprig of crab or other grass that may have started near it. Work with shovel plough or tobacco cultivator early and quickly, so that by the time the plants begin to spread across the row pretty well, the ground may be perfectly clean and mellow.

Worms.—Use yourself and get your neighbours to use the poison for the horn-blower, spoken of on page 248 of volume just closed. You will find the testimony there, of experienced planters, that this suggestion, which they got from the *Farmer*, has been worth hundreds of dollars to them. A good flock of turkies, well directed, will keep down the July "glut" perhaps, but when the Tobacco gets larger, nothing less—if the worms are abundant—than the constant pursuit of them by the hands will do. We suppose that the whole available force of the Tobacco growing counties of Maryland spent two weeks of last year *killing worms*.

FALL POTATOES.

Potatoes may still be planted if not yet done, observing the cautions we gave last month. Keep

them well worked until blossoms appear, when the working should cease.

BROADCAST CORN.

Corn may still be sown broadcast for fodder on well manured ground, and will make a large crop of fodder, good for horses and milch cows.

RUTA BAGA TURNIPS.

If you have no other root crop growing, sow an acre of Ruta Baga for every ten head of cattle on your farm. It is a very productive and profitable crop and easily made. The practical directions given by Mr. Morgan in our June number will be a sufficient guide to those who want advice.

STOCK.

Let Stock of all sorts be salted sufficiently. It is a good plan to have the rock salt at hand where they can take it as they will. A cool dark stable is the best place for them during the heat of the day, when the flies are very troublesome.

WORK IN THE GARDEN.

JULY.

The chief work of the garden during this month is to keep the growing crops clear of weeds and insects. Yet there are some principal crops now to be planted.

CABBAGES.

Set out plants for winter use, in well manured ground, deeply and thoroughly worked. Any good manure will do for them except that from the hog pen, and should be well mixed with the soil.

CELERY.

Presuming you are provided with plants of Celery, as we advised in May, you will this month set out the plants for your main crop. There are comparatively so few who understand the management of this crop, that we give the valuable directions contained in McMahon's Kitchen Garden: "Choose for the purpose a piece of rich ground, in an open exposure; mark out the trenches by line, ten or twelve inches wide, and allow the space of three feet between trench and trench. Dig each trench a moderate spade deep, laying the dug out earth equally on each side, between the trenches; lay three inches deep of very rotten dung in the bottom of each trench, then pare the sides, and dig the dung and parings with an inch or two of the mould at the bottom, incorporating all well together, and put in the plants. Previous to planting, trim the tops of the plants by cutting off the long straggling leaves, and also the ends of their roots, leaving the former about six inches long and the latter two. When however the plants have been duly thinned and kept free from weeds, they will be short and stubby, and will lift with small balls of earth to each. In this case they may be planted with a trowel, and need no trimming. Let them be planted with a dibble in single rows along the middle of each trench, allowing the distance of four or five inches between plant and plant; as soon as planted, give them a plentiful watering, and let them be shaded until they strike root and begin to grow."

WHITE TURNIPS.

Sow a small bed of Turnips for early use. Do not sow main crop before August.

CARDOON, ENDIVE AND LEEK.

Plants of all these may be planted now for main crops in autumn. Most of these plants may be set out in dry weather by dipping the roots in mud and planting carefully.

BEETS AND CARROTS

May be planted still and make good roots.

MANGOES AND CUCUMBERS.

Plant seeds of these for pickling.

CAULIFLOWERS,

For winter use, may be planted.

SMALL SALADING.

Sow seeds every ten days for a succession.

RADISHES.

The last of the month, sow seeds for fall crop and winter use.

SEED PLANTS.

Gather all seed plants as the seed ripen, and spread them carefully to dry in a safe place. As soon as sufficiently dried, get them out and put in paper or cotton bags, carefully labeled, and hang up in a safe place.

HERBS AND MEDICINAL PLANTS.

Gather these for drying as they come into flower, and dry in the shade.

WATER.

Be sure of an ample supply of water and use it freely in dry weather.

A NEW SILK WORM.—M. Guerin Meneville announces to the Academy of Sciences that he has succeeded in naturalizing in France a new variety of the silk-worm from China, which lives upon the leaves of the Ailanthus. He speaks of the silk as equal in quality and superior in quantity to that from the worm of the castor oil plant, or even of the mulberry.

Might it not be worth while to some of our more enterprising farmers to endeavour again to introduce among us this important branch of manufacture, which appears to have failed before, chiefly from becoming the object of a wild speculation.—*Jour. of Franklin Institute for May*, '59.

FLORICULTURE—July, 1859.

The labours of the florist this month are comparatively light. The plants that had been kept during the winter, in the conservatory or greenhouse, are removed out of doors, and the chief care required for them this month is, to see that they do not suffer from the heat.

Azaleas should be removed to a half shady situation, such as is occupied by the camellias and a free use made of the syringe. *Camellias* should be frequently syringed and may now be re-potted.—*Chrysanthemums* require a copious supply of water. Those in pots should now be shifted to larger and plunged in the ground or spent tan.—*Cinerarias.*—Seeds of these should now be sown. The plants should be placed in a shady situation. They may now be propagated by cuttings or by dividing the roots. *Chinese Primrose* seed may still be sown, and the seed of the *Calceolaria* should also be sown. *Dahlias* will have made very considerable growth and should now be supplied with stakes. *Mignonette* should be sown at once. *Petunias* and *Verbenas* should be pegged down as they continue to grow, taking care not to break the plants, as careless persons are too apt to do, in the operation. With the last named plant this duty should be particularly attended to do. A little earth placed over the curve of the plant where it is made to touch the ground, will be found to produce all the effect of a peg and to be quite as expeditiously, and a great deal more safely, performed. *Roses* may now be propagated by layers or by cuttings. *Neapolitan Violets* should now be divided and reset. *Stocks* intended for winter blooming should be syringed and freely watered and placed in a warm border. Cut off the tops of the plants to make them grow bushy. *Fuchsias* if it is desired to prolong their blooming should be shaded in the hottest part of the day. *Pelargoniums* when done blooming should be watered very moderately and be exposed to the air and sun so that their wood may be hardened, previously to being cut down. Cuttings will strike freely in a light sandy soil in an old hot-bed. Sow the seed early.

In striking roses from layers, it will be found necessary with most kinds to cut the layer about half through in a sloping direction at the bend where it is pegged down. Put a little earth or a small chip into the cut to keep it open. It is at this point that the roots of the new plant will put forth. The same end is sometimes obtained by twisting the layer at the bend so as partially to rupture the bark and impede the flow of sap.

County Agricultural Fairs in Pennsylvania.—Dauphin County, at Harrisburg, on 20, 21, 22 September.—Farmers' and Mechanics' Institute of Northampton County, at Easton, on 20, 21, 22, 23 September.—Northampton County Agricultural Society, at Nazareth, 4, 5, 6, 7 October.—Montgomery County Agricultural Society, 4, 5, 6, October.—Lehigh County Agricultural Society, 27, 28, 29 September.—[illegible] County Agricultural Society, at [illegible], 12, 13, 14, 15 October.—Berks County Agricultural and Horticultural Society, at Reading, [illegible] September.—Lebanon County Agricultural Society, [illegible] September.—[illegible] County, at [illegible], [illegible] September.

[For the American Farmer.]

When and Why Farming is Unprofitable.

Messrs. Editors: Every man who has a fondness for any particular branch of industry, reads diligently, and cautiously ponders on what he reads, must sooner or later obtain a fund of information, useful to himself assuredly, and very probably, if rightly communicated, useful to others similarly interested. I am one of those who read the Farmer with much interest, reflect a good deal on what I read, and without much difficulty form opinions and conclusions, satisfactory at all events to myself, and sufficiently important to be well considered by others, if not adopted as incontestible truths. The friction of clashing opinions is even in itself useful, because it brings out sparks and rays of light, illumining the darker points of vegetable mysteries. It sets men thinking, and when once we get them to think seriously, they become more and more rational, less and less mere machines.

There is a great deal of farming done in Maryland (and no doubt in other States) carelessly, and almost without a reason, unless the latter be that it involves the least trouble. There are far too many very careless and thoughtless in the performance of necessary duties, upon which they depend for a living. They are *very* industrious, up late and early, pushing and driving all day long. They ought to be successful and well to do farmers, enjoying the comforts and *luxuries* of the farm, happy and contented. But such as these are not in any sense contented or happy, not prosperous, have no comforts, are wholly strangers to luxuries. They labour hard and are very sanguine, but results are not up to expectations, and in nine seasons out of ten the debit foots up larger than the credit side of their operations. Their farming is not at all *profitable*. If not profitable, if the comforts and luxuries of the farm are missing notwithstanding *all* the labour, may we not enquire *why not?* and answer the question fairly?

In all occupations there are types of a class, varying a little from each other, but still sufficiently alike to form the basis of our observations. These are the "*careless industrious*" men of whom we mean to say something, we hope, for their benefit, though the hope is not a very sanguine one. They are generally "wedded to their idols," and not easily convinced or reformed. Early habits are their controlling deity, and they usually worship at *that* shrine until death closes their career forever.

There are a great many farms in Maryland very indifferently cultivated, certainly so; there are some in each county properly and carefully attended to. In the one case there is no system, in the other it is all system. In the first, the dwelling is generally out of repair, the out-buildings no better and not enough of them, the fencing poor, and the gates poorer still. Along the fence a vigorous crop of weeds and bushes [illegible], and in the field a liberal sprinkling of [illegible] and [illegible] prominently [illegible]. The [illegible] of husbandry are generally left exposed to the weather day and night, rain and shine, and all about can be found the broken pieces of [illegible] cultivators, &c., [illegible] and careless usage. How frequently [illegible]

garden attached to these places, or if one, it is a garden of grass and weeds, with here and there a spot upon which a few peas, cabbages, or tomatoes struggle hard for the mastery. Disorder reigns over everything in the house and out of it, and where the most comfort and rational enjoyment should be found, there is the least. Why is it? To what shall be attributed these misfortunes, for they are really such? Not to idleness, for the farmer is a *very* industrious man. He is up early, has his hands out, and keeps pushing and driving them under high pressure. He drives himself at a 2.40 gait, works hard, and ought to be prosperous. But he is *not* prosperous, because the victim of controlling habits of extreme carelessness. It is the pestilence that clings tenaciously to him, the evil spirit of his life, the mildew that so often destroys his fondest anticipations. There is no place for anything, nor anything in its place, and the whole family have fallen into the pit, for all are "chips of the old block." "*Facilis descensus Averni,*" and idleness is very frequently added to the carelessness of the children. If the head of the family then be thus unfortunate, it cannot be surprising that the whole becomes more or less like the parent stem. Go into the house of our careless friend, and you will perceive in every direction evidences of a thriftless waste. Nothing is cared for as it should be. Comfort has long been unknown. Economy is considered a necessity, and duly insisted upon, but it is practiced on the principle of saving at the spiggot and let the bung-hole leak.

Does some one say this picture is too highly coloured? Let him travel as I have done, and use his eyes and ears, then very likely he will have discovered where the real truth lies. He will too frequently see that industry is often useless, that it is paralyzed by excessive carelessness, and a neglect of the minor details so essential to successful farming. Nor is it alone to these lesser points that so much misfortune is attributable, for very frequently greater ones are heedlessly passed by. Attempting too much, generally ends in accomplishing too little. As a general thing, the farms in Maryland and Virginia are *altogether too large*. The pride of owning a big farm is too dearly paid for, unless there is abundant capital to back it. With ample means to command labor, and to give back to the soil rather more than is taken away, large farms can be profitably cultivated and kept in proper order. With no dependence but the farm, 200 acres is amply sufficient, 50 of these to be in timber. Divide the rest into six fields of 25 acres each. With these, and a careful rotation, ploughing under a heavy growth of clover and buckwheat at the right time, with *plenty of manure for the corn*, the soil will repay all, and more than is put upon it, and gradually become rich and fine. Of course lime, plaster, and other fertilizers are not to be forgotten as indicated, nor a careful preparation of the soil for the seed, by deep ploughing, subsoiling, harrowing and rolling. Let them be no hurry about anything. Don't plant even the first of April, or wheat early in August. Keep as much good stock as can be kept well, and under all the circumstances possible. Have out-buildings in good order, even to the poultry house. Don't neglect the garden, it is worth your attention. Don't mind the cats for fields of *your own* cultivating. Let everything be done in order. Be industrious, but especially careful to avoid that kind of industry so lamentably neutralized by carelessness.

KENT.

[For the American Farmer.]

The Agricultural College.

MESSRS. EDITORS: The schedule of studies for the College proposed by friend Hallowell in your June No. possesses many excellencies, but is capable of some fundamental improvement. Among the natural sciences which he enumerates, he has entirely omitted one which I regard as vastly more important to an educated farmer than botany. It is Zoology in general, and especially that branch of it styled Entomology, which treats of the habits of insects. These little creatures, all farmers and gardeners know, do incalculable damage, and it is amazing how little is known about them, even by gentlemen otherwise well educated. All our agricultural journals contain allusions to this subject in nearly every issue, and every year new treatises and reports are published in illustration of it.

I am prepared to speak at large on the benefits of a knowledge of the habits of insects to the farmer and gardener, but shall content myself, at present, with calling the attention of the trustees to the matter.

The whole subject could be illustrated in a course of 15 or 20 lectures, and no branch of natural science would be more practically useful to the pupils.

J. G. M.

Baltimore, June, 1859.

Grafting the Grape.

The Editor of the *American Cotton Planter* says:

"Having practised grafting grapes for the last ten years, I never found any difficulty in this operation; in fact they graft as easily as any other fruit. Instead of propagating grape vines as usually done by a single eye as a cutting, I always found it a more sure way to graft them (whip grafting) to a piece of root, and whenever it was a scarce kind, of a long jointed growth, as American grapes generally are, one bud was sufficient. I hardly ever lost more than five per cent. I never used any grafting wax, but planted the grafts in the ground immediately, and covered consequently the united place at once with earth. This is undoubtedly a much safer way than relying on single buds as cuttings. When grafting on stumps, taking two or three buds on the graft, I have sometimes had grapes the first season, but always a fair crop the second summer. I seldom, however, succeeded when I grafted any of the varieties of *Vitis Labrusca* on the roots or stumps of *Vitis Rotundifolia*. On the latter, however, our Scuppernong takes readily."

Warren Co. (Ky.) Ag. and Hort. Association.—Next fall an Ag. Fair on Tuesday in October, and continues four days.

President—Dr. A. Cockerham.
Treasurer—W. C. Cabell.
Secretary—J. C. Rhodes.

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But little is to be said about the Corn crop, as it is to be hoped the working is completed. If you must, however, work it in this month, keep the implement as far off from the corn as your work will allow. *Cultivate alternate rows.* That is, go over your field, leaving every other row untouched, so that every hill of corn will have its roots on one side uncut. Then begin again, going through the rows not worked before; by this time those roots first cut will have recovered in a measure from the damage done them.

TOBACCO.

The Tobacco crop will demand the strictest attention during the month. The "weeding" should be done at the earliest possible time after the plants are started. During the hot dry days, the least rough usage will disturb and destroy the plant. Pushing therefore against the plant with the hoe to scrape away the grass should not be allowed, yet the utmost care should be observed to clear away the least sprig of crab or other grass that may have started near it. Work with shovel plough or tobacco cultivator early and quickly, so that by the time the plants begin to spread across the row pretty well, the ground may be perfectly clean and mellow.

Worms.—Use yourself and get your neighbours to use the poison for the horn-blower, spoken of on page 248 of volume just closed. You will find the testimony there, of experienced planters, that this suggestion, which they got from the *Farmer*, has been worth hundreds of dollars to them. A good flock of turkies, well directed, will keep down the July "glut" perhaps, but when the Tobacco gets larger, nothing less—if the worms are abundant—than the constant pursuit of them by the hands will do. We suppose that the whole available force of the Tobacco growing counties of Maryland spent two weeks of last year *killing worms*.

FALL POTATOES.

Potatoes may still be planted if not yet done, observing the cautions we gave last month. Keep

them well worked until blossoms appear, when the working should cease.

BROADCAST CORN.

Corn may still be sown broadcast for fodder on well manured ground, and will make a large crop of fodder, good for horses and milch cows.

RUTA BAGA TURNIPS.

If you have no other root crop growing, sow an acre of Ruta Baga for every ten head of cattle on your farm. It is a very productive and profitable crop and easily made. The practical directions given by Mr. Morgan in our June number will be a sufficient guide to those who want advice.

STOCK.

Let Stock of all sorts be salted sufficiently. It is a good plan to have the rock salt at hand where they can take it as they will. A cool dark stable is the best place for them during the heat of the day, when the flies are very troublesome.

WORK IN THE GARDEN.

JULY.

The chief work of the garden during this month is to keep the growing crops clear of weeds and insects. Yet there are some principal crops now to be planted.

CABBAGES.

Set out plants for winter use, in well manured ground, deeply and thoroughly worked. Any good manure will do for them except that from the hog pen, and should be well mixed with the soil.

CELERY.

Presuming you are provided with plants of Celery, as we advised in May, you will this month set out the plants for your main crop. There are comparatively so few who understand the management of this crop, that we give the valuable directions contained in McMahon's Kitchen Garden: "Choose for the purpose a piece of rich ground, in an open exposure; mark out the trenches by line, ten or twelve inches wide, and allow the space of three feet between trench and trench. Dig each trench a moderate spade deep, laying the dug out earth equally on each side, between the trenches; lay three inches deep of very rotten dung in the bottom of each trench, then pare the sides, and dig the dung and parings with an inch or two of the mould at the bottom, incorporating all well together, and put in the plants. Previous to planting, trim the tops of the plants by cutting off the long straggling leaves, and also the ends of their roots, leaving the former about six inches long and the latter two. When however the plants have been duly thinned and kept free from weeds, they will be short and stubby, and will lift with small balls of earth to each. In this case they may be planted with a trowel, and need no trimming. Let them be planted with a dibble in single rows along the middle of each trench, allowing the distance of four or five inches between plant and plant; as soon as planted, give them a plentiful watering, and let them be shaded until they strike root and begin to grow."

WHITE TURNIPS.

Sow a small bed of Turnips for early use. Do not sow main crop before August.

CARDOON, ENDIVE AND LEEK.

Plants of all these may be planted now for main crops in autumn. Most of these plants may be set out in dry weather by dipping the roots in mud and planting carefully.

BEETS AND CARROTS

May be planted still and make good roots.

MANGOES AND CUCUMBERS.

Plant seeds of these for pickling.

CAULIFLOWERS,

For winter use, may be planted.

SMALL SALADING.

Sow seeds every ten days for a succession.

RADISHES.

The last of the month, sow seeds for fall crop and winter use.

SEED PLANTS.

Gather all seed plants as the seed ripen, and spread them carefully to dry in a safe place. As soon as sufficiently dried, get them out and put in paper or cotton bags, carefully labeled, and hang up in a safe place.

HERBS AND MEDICINAL PLANTS.

Gather these for drying as they come into flower, and dry in the shade.

WATER.

Be sure of an ample supply of water and use it freely in dry weather.

A NEW SILK WORM.—M. Guerin Meneville announces to the Academy of Sciences that he has succeeded in naturalizing in France a new variety of the silk-worm from China, which lives upon the leaves of the Ailanthus. He speaks of the silk as equal in quality and superior in quantity to that from the worm of the castor oil plant, or even of the mulberry.

Might it not be worth while to some of our more enterprising farmers to endeavour again to introduce among us this important branch of manufacture, which appears to have failed before, chiefly from becoming the object of a wild speculation.—*Jour. of Franklin Institute for May*, '59.

FLORICULTURE—July, 1859.

The labours of the florist this month are comparatively light. The plants that had been kept during the winter, in the conservatory or greenhouse, are removed out of doors, and the chief care required for them this month is, to see that they do not suffer from the heat.

Azaleas should be removed to a half shady situation, such as is occupied by the camellias and a free use made of the syringe. *Camellias* should be frequently syringed and may now be re-potted.—*Chrysanthemums* require a copious supply of water. Those in pots should now be shifted to larger and plunged in the ground or spent tan.—*Cinerarias*.—Seeds of these should now be sown. The plants should be placed in a shady situation. They may now be propagated by cuttings or by dividing the roots. *Chinese Primrose* seed may still be sown, and the seed of the *Calceolaria* should also be sown. *Dahlias* will have made very considerable growth and should now be supplied with stakes. *Mignonette* should be sown at once. *Petunias* and *Verbenas* should be pegged down as they continue to grow, taking care not to break the plants, as careless persons are too apt to do, in the operation. With the last named plant this duty should be particularly attended to do. A little earth placed over the curve of the plant where it is made to touch the ground, will be found to produce all the effect of a peg and to be quite as expeditiously, and a great deal more safely, performed. *Roses* may now be propagated by layers or by cuttings. *Neapolitan Violets* should now be divided and reset. *Stocks* intended for winter blooming should be syringed and freely watered and placed in a warm border. Cut off the tops of the plants to make them grow bushy. *Fuchsias* if it is desired to prolong their blooming should be shaded in the hottest part of the day. *Pelargoniums* when done blooming should be watered very moderately and be exposed to the air and sun so that their wood may be hardened, previously to being cut down. Cuttings will strike freely in a light sandy soil in an old hot-bed. Sow the seed early.

In striking roses from layers, it will be found necessary with most kinds to cut the layer about half through in a sloping direction at the bend where it is pegged down. Put a little earth or a small chip into the cut to keep it open. It is at this point that the roots of the new plant will put forth. The same end is sometimes obtained by twisting the layer at the bend so as partially to rupture the bark and impede the flow of sap.

COUNTY AGRICULTURAL FAIRS IN PENNSYLVANIA.—Dauphin County, at Harrisburg, on 20, 21, 22 September.—Farmers' and Mechanics' Institute of Northampton County, at Easton, on 20, 21, 22, 23 September.—Northampton County Agricultural Society, at Nazareth, 4, 5, 6, 7 October.—Montgomery County Agricultural Society, 4, 5, 6, October.—Lehigh County Agricultural Society, 27, 28, 29 September.—Carbon County Agricultural Society, at Weissport, 12, 13, 14, 15 October.—Berks County Agricultural and Horticultural Society, at Reading, 21, 22, 23 September.—Lebanon County Agricultural Society, 28, 29, 30 September.—Bucks County, at Newtown, 21, 22 September.

[For the American Farmer.]

When and Why Farming is Unprofitable.

MESSRS. EDITORS: Every man who has a fondness for any particular branch of industry, reads diligently, and cautiously ponders on what he reads, must sooner or later obtain a fund of information, useful to himself assuredly, and very probably, if rightly communicated, useful to others similarly interested. I am one of those who *read* the Farmer with much interest, reflect a good deal on what I read, and without much difficulty form opinions and conclusions, satisfactory at all events to myself, and sufficiently important to be well considered by others, if not adopted as incontestible truths. The friction of clashing opinions is even in itself useful, because it brings out sparks and rays of light, illumining the darker points of vegetable mysteries. It sets men thinking, and when once we get them to think seriously, they become more and more rational, less and less mere machines.

There is a great deal of farming done in Maryland (and no doubt in other States) carelessly, and almost without a reason, unless the latter be that it involves the least trouble. There are far too many very careless and thoughtless in the performance of necessary duties, upon which they depend for a living. They are *very* industrious, up late and early, pushing and driving all day long. They ought to be successful and well to do farmers, enjoying the comforts and *luxuries* of the farm, happy and contented. But such as these are not in any sense contented or happy, not prosperous, have no comforts, are wholly strangers to luxuries. They labour hard and are very sanguine, but results are not up to expectations, and in nine seasons out of ten the debit foots up larger than the credit side of their operations. Their farming is not at all *profitable*. If not profitable, if the comforts and luxuries of the farm are *minus* notwithstanding *all* the labour, may we not enquire *why not?* and answer the question fairly?

In all occupations there are types of a class, varying a little from each other, but still sufficiently alike to form the basis of our observations. These are the "*careless industrious*" men of whom we mean to say something, we hope, for their benefit, though the hope is not a very sanguine one. They are generally "wedded to their idols," and not easily convinced or reformed. Early habits are their controlling deity, and they usually worship at *that* shrine until death closes their career forever.

There are a great many farms in Maryland very indifferently cultivated, *carelessly* so; there are some in each county properly and carefully attended to. In the one case there is no system, in the other it is all system. In the first, the dwelling is generally out of repair, the out-buildings no better and not enough of them, the fencing poor, and the gates poorer still. Along the fences a vigorous crop of weeds and bushes luxuriate, and in the lots a liberal sprinkling of brambles and briers persistently grow. The implements of husbandry are generally left exposed to the weather day and night, rain and shine, and all about can be found the broken pieces of plows, spades, cultivators, &c.—thus seriously damaged by hard and careless usage. Most frequently there is no

garden attached to these places, or if one, it is a garden of grass and weeds, with here and there a spot upon which a few peas, cabbages, or tomatoes struggle hard for the mastery. Disorder reigns over everything in the house and out of it, and where the most comfort and rational enjoyment should be found, there is the least. Why is it? To what shall be attributed these misfortunes, for they are really such? Not to idleness, for the farmer is a *very* industrious man. He is up early, has his hands out, and keeps pushing and driving them under high pressure. He drives himself at a 2.40 gait, works hard, and ought to be prosperous. But he is *not* prosperous, because the victim of controlling habits of extreme carelessness. It is the pestilence that clings tenaciously to him, the evil spirit of his life, the mildew that so often destroys his fondest anticipations. There is no place for anything, nor anything in its place, and the whole family have fallen into the pit, for all are "chips of the old block." "*Facilis descensus Averni*," and idleness is very frequently added to the carelessness of the children. If the head of the family then be thus unfortunate, it cannot be surprising that the whole becomes more or less like the parent stem. Go into the house of our careless friend, and you will perceive in every direction evidences of a thriftless waste. Nothing is cared for as it should be. Comfort has long been unknown. Economy is considered a necessity, and duly insisted upon, but it is practiced on the principle of saving at the spiggot and let the bung-hole leak.

Does some one say this picture is too highly coloured? Let him travel as I have done, and use his eyes and ears, then very likely he will have discovered where the real truth lies. He will too frequently see that industry is often useless, that it is paralyzed by excessive carelessness, and a neglect of the minor details so essential to successful farming. Nor is it alone to these lesser points that so much misfortune is attributable, for very frequently greater ones are heedlessly passed by. Attempting too much, generally ends in accomplishing too little. As a general thing, the farms in Maryland and Virginia are *altogether too large*. The pride of owning a big farm is too dearly paid for, unless there is abundant capital to back it. With ample means to command labor, and to give back to the soil rather more than is taken away, large farms can be profitably cultivated and kept in proper order. With no dependence but the farm, 200 acres is amply sufficient, 50 of these to be in timber. Divide the rest into six fields of 25 acres each. With these, and a careful rotation, ploughing under a heavy growth of clover and buckwheat at the right time, with *plenty of manure for the corn*, the soil will repay all, and more than is put upon it, and gradually become rich and fine. Of course lime, plaster, and other fertilizers are not to be forgotten as indicated, nor a careful *preparation* of the soil for the seed, by deep ploughing, subsoiling, harrowing and rolling. Let there be no hurry about anything. Don't plant corn the first of April, or wheat early in August. Keep as much good stock as can be kept well, and make all the manure possible. Have out-buildings in good order, even to the poultry house. Don't neglect the garden, it is worth some attention. Don't scold the wife for faults of your own committing. Let everything be done in order. Be industrious, but especially careful to avoid that kind of industry so lamentably neutralized by carelessness.

KENT.

[For the American Farmer.]

The Agricultural College.

MESSRS. EDITORS: The schedule of studies for the College proposed by friend Hallowell in your June No. possesses many excellencies, but is capable of some fundamental improvement. Among the natural sciences which he enumerates, he has entirely omitted one which I regard as vastly more important to an educated farmer than botany. It is Zoology in general, and especially that branch of it styled Entomology, which treats of the habits of insects. These little creatures, all farmers and gardeners know, do incalculable damage, and it is amazing how little is known about them, even by gentlemen otherwise well educated. All our agricultural journals contain allusions to this subject in nearly every issue, and every year new treatises and reports are published in illustration of it.

I am prepared to speak at large on the benefits of a knowledge of the habits of insects to the farmer and gardener, but shall content myself, at present, with calling the attention of the trustees to the matter.

The whole subject could be illustrated in a course of 15 or 20 lectures, and no branch of natural science would be more practically useful to the pupils.

J. G. M.

Baltimore, June, 1859.

Grafting the Grape.

The Editor of the *American Cotton Planter* says:

"Having practised grafting grapes for the last ten years, I never found any difficulty in this operation; in fact they graft as easily as any other fruit. Instead of propagating grape vines as usually done by a single eye as a cutting, I always found it a more sure way to graft them (whip grafting) to a piece of root, and whenever it was a scarce kind, of a long jointed growth, as American grapes generally are, one bud was sufficient. I hardly ever lost more than five per cent. I never used any grafting wax, but planted the grafts in the ground immediately, and covered consequently the united place at once with earth. This is undoubtedly a much safer way than relying on single buds as cuttings. When grafting on stumps, taking two or three buds on the graft, I have sometimes had grapes the first season, but always a fair crop the second summer. I seldom, however, succeeded when I grafted any of the varieties of *Vitis Labrusca* on the roots or stumps of *Vitis Rotundifolia*. On the latter, however, our Scuppernong takes readily."

WARREN CO. (KY.) AG. AND MECH. ASSOCIATION.—Next fair on first Tuesday in October, and continues four days.

President—Dr. A. Covington.
Treasurer—T. C. Calvert.
Secretary—F. C. Herrick.

Col. J. W. Ware on Cotswolds and Merinos.

To the Editors of the American Farmer:

MESSRS. EDITORS: Your April number contains another communication from Mr. Wallach that requires answer. "Offence" to me dwells only in his imagination. I never object to any gentleman's sifting the pretensions to profit of any breed of animal—I am open to conviction, and if any prove more profitable than the kind I keep, I will thank him and lose no time in changing—but I require *facts* in place of "hazarded assertions." I disregard the sneer, if intended as such, that I breed for sale—I do breed for sale, both for stock purposes and consumption. Who does not? Then let them reap the reward due their error. Surely he does not keep such ungainly sights as Merinos only to look at or solely to consume—does he starve the surplus to death, or feed them on briars and weeds? If so, how can he bring them to a sale to reduce his number to a proper standard? This would be ungrateful to an animal yielding so much profit without sales—he was not writing of "his preference" but of "the profit for the *Virginia* farmer," not for the Piedmont country in Virginia. I think every subject connected with farming, brought forward in farming journals, should be fully discussed by the farmers for the good of their own class—it creates the value of the journal. If otherwise, your journal would not be worth, to the farmer, the paper on which it is printed; the indisposition to expose such errors without an interest in the matter frequently causes forbearance.

Mr. Wallach admits "he knows nothing of the other breeds than Merino, from *practical experience*," and yet contends he knows enough of them from reading, and the opinions expressed by intelligent farmers who have kept them—he does not pretend to say kept thorough-bred, and from the ideas he expressed, I doubt if they kept them at all. If this is all, he will hardly be recognized as authority; it looks very much as if he read on one side only. Suppose others in reading this, should in some way claim him as authority, would it be good as to Cotswolds? Mr. Wallach makes various changes of position. In his December number, he writes of the comparative value for profit to the Virginia farmer: in the April number, of the comparative value for his latitude. He may take either or both. Does Mr. Wallach wish the public to give him credit for candor when he speaks of my "comparing merchantable value of his, (my) choice specimens of Cotswolds with the two dollar scrubby refuse of the Merino flock." He must see his error, unless he is one of the hopeless blind that *will not* see. He has done injustice to himself in his over zeal to witness against the Cotswolds. My comparison was only with *part bred* Cotswolds in muttons, and yearlings only at that—did not even calculate *my own sales* or my own sheep at all, much less my "choice specimens." Shame upon such perversion. My calculation was for absolute sales each year, of my neighbors, of *part bred* muttons only; not the choice, but *all*, and only one year old the preceding spring; some having but few pure bred crosses in them, if any. I find since, I did them injustice, for the most of them sold for eight dollars each and had not been fed grain at all. Since then, I met with a gentleman of Maryland, who told me he never had many crosses, and he sells his muttons at ten dollars each, *not under*. Any of these sales were much higher than Mr. Wallach and his neighbors *gave* for *thorough-bred Merino Ewes*, by *his own admission* in the latter part of his April communication. Strange, reflecting men will breed from scrubs and brag of it too. I allowed him more than he claimed, even in the same pure bred Merino, he was braging on, both in wool and mutton. He claimed 2.02 per fleece *before* duty was on wool. I allowed it after duty was on it, when his candor and justice allowed the Cotswold fleece as over 100 per cent. less than that. Did he get this "from his reading and the opinions expressed by intelligent farmers who have kept them?" I am not aware of having used Mr. Bradford's name at all. I allowed the Merinos four dollars each for muttons, when Mr. Wallach himself said "butchers will not pay them if they can get good coarse wool muttons." I did him more justice than he claimed for himself, for I put the Cotswold below their usual annual sales, giving him every advantage in every way. Mark the following, both from Mr. Wallach:

In December last—	In April following—
"In the first place, the fleece of the Merino, though *much lighter* than that of the coarse or long wool, sells for 100 per cent. more."	"Fine wool sheep, while they are much smaller and consume proportionably less food, they *actually average heavier fleeces* than the long wool sheep, and command from 50 to 75 per cent. more according to quality."

What remarkable inconsistency twice in two short sentences, and that not in shearing season. Both cannot be correct; neither admitted as just to the Cotswold. I hope Mr. Wallach does injustice to Mr. Bradford and his neighbors, when he charges him with selling, and they with buying *Scrub Merinos* to breed from—but that is between them. I deny the justice to the Cotswold in the fleece being 100 per cent. at least below 2.02 for Merino fleece. Is he not ashamed of this? Is there a man so simple as to credit such a comparison? Then what becomes of his whole price?

Again, "while they, (Merinos,) are much smaller and consume proportionably less food, (for no fact is better established among intelligent graziers, than that animals require food in proportion to their live weight,) they actually average heavier fleece," how is this? Is food to be in proportion to the live weight of the animal, and neither food or size of animal to have anything to do with weight of fleece; and the smaller animal on much less food, to have much heavier fleeces. And yet the same author in another place says, "wool will not grow while the animal has only food enough to keep it alive"—again, "briars and even weeds are extirpated by Merino Sheep." True, starvation will drive them to that as food when they have no grass, but when they have, they will occasionally nibble both as a medicine; *that*, all sheep will do—but under that system, how is the wool to grow under the above expression? What a blanket, (I suppose the proper term about wool,) of inconsistencies he wraps himself in! Such a principle never has, or will be settled in that way, for it is not the fact; though a very convenient theory for those having small unimproved breeds.

The most distinguished breeders of cattle, sheep

and hogs, bred for their aptitude to take on fat. Some forms of man and beast take on fat readily, although small feeders—others of different forms, though large feeders, take on fat so slow as to be unprofitable. Does not every person know this? If it was not so the whole system of breeding that brought Cotswolds and Shorthorns to such forms by the most eminently successful breeders, would simply be nonsense, and improvement of animals folly. Does not Mr. Wallach *know* the same amount of feed will not equally fatten two horses or hogs of the same size and different forms? Some will fatten readily, others cannot be fattened at all.

Can Mr. Wallach be candid when he says I took as a standard the culled sheep sold in Baltimore for two dollars and a half. He must know better; he must know I took *his own writing* as a standard. I do not even know he ever sold a single sheep there; least of all did I suspect he was *selling* "old and indifferent ewes and stunted lambs that a flock master would sooner give away than keep."

Mr. Wallach in December—	Mr. Wallach in April—
"The wethers commence to deteriorate in the yield of wool after three years old, and are sent to market only after that age as the *owner may find sale for them* in condition; next again, the *butchers will not buy them if they can obtain good coarse wool mutton*, because they do not cut up so profitably."	"The wethers and such of the old ewes as are in order go very readily to the butchers at from three fifty to five dollars, and lately a sale was made to a Richmond butcher of *one hundred wethers, at seven dollars*; but the *best specimens of Merinos have commanded, and do now, as high or higher prices than the Cotswolds according to weight*. If sold to the butcher, and dollar for dollar when sold for breeding."

The reader may reconcile these if he can. From Mr. Wallach's statement I must conclude the Richmond butchers could get no long wool muttons. I know nothing of the sale myself. The idea that "the best specimens of the Merinos have commanded, and do now, as high or higher prices than the Cotswolds," answers itself. If not, Mr. Wallach in December fully does, and cause, no doubt, no little merriment among those who have raised, fattened and sold both, even part bred on the Cotswold side, and with butchers who have bought both. I sold to a butcher of New York, who came to my farm for them, a lot of fifty muttons, all *part bred* Cotswolds; part of them at thirty-five dollars each; part at twenty-five dollars each, and the balance (year olds) ten dollars each; he offering me fifty dollars each for the older ones, to be separated from the yearlings, saying at the time, he could buy as many Merinos, delivered at his stall, for one dollar each, as he wished. I saw *one saddle* of my muttons sell in the Washington city market, to the caterer for the English minister, for thirty-five dollars. A gentlemen near Philadelphia fed for that market three wethers he purchased of me—part breds—two of them twins, which he sold to the Philadelphia butchers for two hundred and fifty dollars, ($83⅓ each,) and in addition to that, on account of their handsome turn out, presented the feeder with a piece of plate worth twenty-five dollars. The three year old one weighed *two hundred and thirty-four pounds neat;* the two year old twins two hundred and four, and one hundred and ninety-four pounds neat. Twice I have been offered one hundred dollars each for a lot of muttons, to be fed well to three years old—ten of the first lot mentioned brought half as much. The offer to me of fifty dollars each, would have made fourteen of them bring fully as much, and the last offer of one hundred dollars would have made seven bring as much money as the whole one hundred Merinos did, that he says were sold to the Richmond butcher at seven dollars each.—After admitting that "the Merinos will not sell to the butcher while good coarse wool mutton could be had," he triumphantly brings forward sales of Merino wethers for seven, three fifty, and five dollars, for four year olds—not as much as our ordinary *part bred yearlings* sell for regularly every year, without having been fed grain at all; and yet with all this array of sales of *part breds only, not one thorough bred among them.* He says the "*best specimens of Merinos* have commanded, and do now, as high or higher prices than the Cotswolds according to weight." What must the candid reader think of this? Let him *show* it. Mr. Wallach cannot think of enlightening a public by "hazarding assertions;" he must state *facts of his own* knowledge. "And dollar for dollar for breeding"—that I cannot say any thing about; and "unlike" Mr. Wallach, I am not willing to discuss a matter I know nothing about. I cannot know the sales of Merinos for breeding purposes, as the top sales only are published, but I presume the flocks that he and his neighbors own, and of which he can only *with certainty* have a personal knowledge, were *pure* bred, and they only cost from "two fifty to six dollars"—and I know they can easily be had in any number, certainly as pure, at any rate, much lower than the last price. Mr. Wallach speaks of large prices in Merino, and knows sales in his neighborhood for fifty dollars, but does not say whether bucks or ewes, or what number; nor does he say he *knows* of the other sales he mentions—I can help him in that. I have heard of heavier sales, but "there was accommodation in them," like the immense sales of multicaulis that put the United States in a fever. In the North, sales were made at auction at immense rates. A Virginian who attended the sales and informed me of it, thinking his fortune made, offered his privately to the purchaser, and was told they thought he wished to be a purchaser—the amount was a sham sale to keep up the price. A Merino ram was taken by a carpenter in Kentucky, years ago, towards payment for building a house, at thirty-five hundred dollars; he could get nothing for him, and slaughtered him to give his workmen a dinner. I know of a French Merino at our fairs, some years since, that was held at two thousand dollars, dwindled on down in price until the agent was authorized to take fifty dollars, and went home unsold. Merino as pure bred and as fine as any now, were bought in this county at fifteen hundred and five hundred dollars, and now not one is to be found here; and I do not think a Merino buck could be given away here now, and bind the farmer to breed from him, for want of profit in them.

Mr. Wallach speaks of three hundred ewes of Mr Bradford's that could not be bought for less than average of twenty-five dollars. I do not know anything about Mr. Bradford's prices. This he seems to consider a high price, and so should I, *very high for any Merino*, but surely Mr. Wal-

lach does not mean to infer that I have, or ever had any thorough bred Cotswold Ewe that could be bought for anything like that. Here is ignorance on the subject. Again, how can he compare prices without knowing my sales? Part bred Cotswolds sell at such prices. But what a man would take and when he can get it is not always the same thing. Probably his best were at the fairs. I did not hear such prices were asked there, though I did not hear all that passed; here I am ignorant, I will "hazard" no position, but the sales of *breeders* is no fair criterion to judge of the profits of breeds of sheep for farming purposes, but mutton and wool. Now as to wool, as I cannot know the yield of different flocks, I will take their own version, premising at the same time, I have never calculated the wool as *much profit* over the keep of the sheep of *any* breed, and I think no *farmer* ought to rely for profit of sheep on one quality only.

I must here express my regret that Mr. Wallach persists in an unfair course. Was it not as easy to quote me correctly as incorrectly? I expressly said my eighteen and three-quarters, seventeen, twelve and ten pound fleeces were *well washed*, and he understands them, *unwashed*. My sheep are always washed in a tub rubbing the wool like washing clothes. It is well known by those acquainted with sheep, that the Cotswolds have but little yolk in their wool, while the Merinos are full of it, and a large portion of the fleeces' weight is of it—washing can lessen it but it needs scouring to clear it. Mr. Wallach finding himself at a disadvantage in his former position of less than 2.02 fleeces, now changes it and says "twenty of Mr. Bradford's bucks and ewes yielded from ten to fifteen pounds, (each I presume) of unwashed wool." "Mr. Campbell, of Vermont, had a half Spanish and half Silesian buck, two years old that sheared twenty-two pounds of *unwashed* wool one year's growth." "Mr. Hammond's flock of several hundred Merinos, last year yielded him, as I am credibly informed, an average of nine pounds of unwashed wool." I could bring many instances of "credible information," but does Mr. Wallach know these facts himself, or any of them? Mr. Wallach has some gentlemen in his county who have Merinos, and I know take good care of all their stock, and whom I know to be fair—what do they say from their experience with them? Do they believe in such fleeces and such prices? Let us refer to a genuine letter from Mr. Campbell himself, to an agricultural páper in my possession. "Of late some have pretended to shear from the French Sheep, fleeces that weigh from thirty to forty pounds, but it would not be reasonable to suppose this to be all wool. Although I have at the present time, more money invested in the French than in all the other breeds, I am not disposed (by some slight of hand) to make my fleeces weigh forty or even thirty pounds, but think I would be justified in saying that flocks of the above breeds *well kept*, will shear an average of from six to ten pounds of well washed wool?' (My letters from elsewhere tell a very different tale.) "My Silesians are heavy shearers"—"my old Spanish flock also produce well—the present season sheared an average of five and a half pounds of well washed wool." "Two and a half pounds is higher than the sheep will average throughout the country;" so much for Mr. Campbell. Now I will quote from a very distinguished gentleman who investigated for himself with care, and consequently declined purchasing; delicacy forbids my naming him. "Owing to their extraordinary oily secretions as given in the dirt and grease, it is reduced one half by process of washing, even on the sheep's back; two thirds after further washing for manufacturers' uses." Apply these rules and what will it reduce the clean yield of the brag fleeces he instances to? One half would reduce the largest of Mr. Bradford's to seven and a half pounds—two thirds would only leave five pounds, and the ten pound fleeces to three and a third; of Mr. Hammond, nine pounds would be brought to three pounds, and I expect if Mr. Campbell was asked if his twenty-two pounds fleece was truly of only one year's growth, and free of "the slight of hand" operation he wrote of, he would answer in the negative; even if he did not, the scales would bring it to seven and one third pounds of clean wool. Can Mr. Wallach believe otherwise himself after seeing the nature of the sheep? After hearing of these thirty and forty pound fleeces, I sought information from a gentleman of age and experience well versed in sheep—he answered "he was only surprised they did not make it one hundred pounds, as they could as easily have done so. His informant, who was to be relied on, was acquainted with them and their management, said, some mixed sweet oil and Scotch snuff—others, a heavy black substance with sweet oil, which during the growth of the fleece was occasionaly put in to create an artificial yolk;" this was published, and never contradicted, and some specimens were exhibited at the Richmond fairs, some years since, evidently abundantly prepared. Before leaving this branch, I will state for Mr. Wallach's satisfaction, that I have evidence in my possession that the linsey that won the first prizes at the state fairs in Richmond, in 1854-5-6-7, and in Petersburg, in 1858, and also at the fairs of the Union Agricultural Society of Virginia and North Carolina, in 1856-7-8, was of Cotswold wool. Some of it sold for eighty cents per yard, some for one dollar per yard.

[*To be Continued.*] Page 54

Wheat Crop in Gloucester County, Va.

GLOUCESTER CO., VA., May 25, 1859.

To the Editors of the American Farmer:

GENTLEMEN: As the newspapers are already filled with accounts of fine crops of wheat all over the United States, I will give you a true account of the prospect for a crop in this section. I wish very much that farmers in different sections of this and other wheat growing States would give, through agricultural papers at this season of the year, accounts of the appearance of the wheat and other crops; such accounts from farmers might be relied on, and persons might judge of the prospect for prices. Accounts we see in the newspapers from travellers and other writers, are entirely unreliable. I saw more than ten days since an account in the newspapers of the wheat crop, which stated that it was, fine and so far advanced as to be safe from all casualties, particularly the

rust, and at that time the wheat was not more than in the boot. I have seen the crop almost entirely destroyed by rust, when there was not the least appearance of it one week before harvest. Such accounts are written by persons who know nothing of what they write, or are intended to deceive.

The wheat in this section as a general thing was promising up to the first of April, when it commenced failing, (I suppose from many causes,) particularly from the excessive wet winter and spring, and from fly. Recently rust has made its appearance on the leaf, which I fear will seriously injure what the fly has left standing; without injury from rust I am sure our crop cannot be much over half an average. I have seen some joint worm, but I should think the crop was too far advanced to be injured by them this season. The fear is that they will increase, and that our crops next year may be destroyed by them. I never have known as much rain as has fallen since the first of last December. The winter was so wet that little or no ploughing was done for corn until late in the spring, consequently the corn is very small and backward, and the continued wet weather has prevented its being worked. Harvest will be upon us before we are half through the working of our corn.

I wrote you during the winter that I had used some of Reese's Manipulated Guano on my wheat, which at that time was promising. That has also failed from causes stated above, and I am sure nothing can happen now before harvest to improve it. Very respectfully yours,

P. R. P.

From a forty years Subscriber to the Farmer.

COTTOOSA CO., GA., May 17, 1859.

To the Editors of the American Farmer:

Your May number is just received. I observe with much pleasure the able manner in which your editorial department is conducted, and the candour with which you reply to your correspondents. I have the satisfaction to say to you, that I have been a subscriber to the American Farmer for the last forty years, and if I am in debt to you please send the account and I will remit the amount. I am in my eightieth year, and having for forty years of my life enjoyed the benefit of its instruction, I wish to continue it the remainder of my days.

For fifty-nine years I have been engaged in agricultural and horticultural experiments. The duration of life of fruit trees, even in the "sunny South," is surprising! I have evidence that apple and peach trees, still living, had fruit on them at the close of the revolutionary war. I further state that I visited a peach tree in 1856, then bearing fruit, that was a bearing tree in 1798. My impression is that the duration of life of a man and an apple tree, are, under ordinary circumstances, about the same, but the doctors and the nurserymen will not suffer nature to have its course.

I see gas tar and sulphur recommended for peach trees. I have no confidence in either. I scrape the dirt away from the roots and throw around a shovel full of slacked lime, and find they do well. For the numerous insects, ants, &c., that infest vines and the leaves of other plants, I find the best remedy is slacked lime or unslacked ashes, and an equal quantity of plaster. Let them be dusted by a careful hand, over the vines or leaves while the dew is on them. It will not only drive off the insects, but invigorate the plants. There is a very small black ant which infests the vine here, and is in my opinion, the cause of rot in the grape by piercing it with its sharp probe. I find this application very useful in driving them off. Yours respectfully,

WILLIAM MURRAY.

[For the American Farmer.]

A Labour Saving Implement.

Messrs. Editors:—Without any comment or apology, I submit the following for your consideration, begging that you will do as you see fit with it.

I have made and am now using (what I consider) a great "labor saving" implement. It is entirely original, as I have never seen, read or heard of one exactly like it, and so very simple that any one can make one after reading the description. The machine (if I may so honor it) is intended for "laying off" corn ground, and one of them, with a driver and two mules or horses, will lay off *more* ground than any three men with *ordinary single-horse ploughs*. It will do it better and at a less expense, (for time and labour are both expensive items, and equivalent to bankable money,) and it gives no excuse for loitering or idling, as there is no stake or other movable marker required, and consequently no stopping necessary. The frame consists of three pieces of scantling, 3 by 4, morticed together in a triangular form, the base being eight feet wide, and the sides ten feet each. There is a brace running from the angle in front to the centre of the base or rear piece, and a corresponding brace across the centre from side to side. Besides these there are two guide bars and a pair of handles for regulating and steadying the "Regulator," (as I term this implement,) The guide bars are fastened to the corners (on the right and left of the driver) by means of a hinge so as to be *raised* or *lowered* at will. And now that the wood work is completed, I will give the number and variety of teeth required. There are in mine three large shovels, one on each end and the third in the centre of the base; there are two harrow teeth, one on each end of the brace, running from side to side, and there is another similar tooth in front, or just at the angle; then there is a harrow tooth at the end of each guide bar. These bars may be made much smaller than the balance of the frame, but should be of tough wood. The teeth may be fastened in any way most desirable to the maker —mine are morticed through the wood and have a tap to screw on the top—then with a short chain attachment in front the "Regulator" is complete. And now for the *modus operandi*: First, there must be *one* row laid off straight, then the guide bar on the side *towards* this row must be lowered, so that the tooth at the end will come in the *centre* of the row laid off, and if the driver by attention will keep this tooth in the row, he will run three parallel rows each time that he crosses the field; and so he can go on,

taking the *outside* row for a guide. The greatest end achieved by this machine is, that the rows must be a corresponding distance apart and consequently lessens the danger of pulling up the corn in working it. I would merely add that I am using one, and though my land is hilly and my soil a clay one, I find two mules amply sufficient. As I said before you can give this to the public, if you think it worthy of a place in your columns. Your's, truly,

GLENOVER.

Culpeper Co., Va.

New Southern Seedling Apples.

CLARKSVILLE, GA., May 17, 1859.

Editors of the American Farmer:

GENTLEMEN: According to your request, and my promise, I send you descriptions of a few of our Southern Seedling Apples. I have selected such as are not described by Downing or any one else, and have confined these descriptions to winter varieties alone. Should you think these would interest the readers of your magazine, I will send you descriptions of another lot, together with some of our Southern Peaches, Pears, &c., as I have a good stock on hand.

CULLAWHEE.—Probably the largest apple known. I have seen specimens measuring twenty-one inches in circumference. It is a seedling from the *Buff*, resembling a huge pomegranate in appearance, being much ribbed, with the calyx slightly sunk; stem, short and fleshy; color, yellow striped and spotted with bright red; ripens in November, and keeps until February; flesh rather coarse and acid; second quality. A native of North Carolina.

BLACKSHEAR.—A native of Laurens county, Georgia. Fruit large, oblate in form; colour, yellow ground faintly striped with red; flesh yellow, pleasantly acid; ripens in October, and keeps until January and February; quality very good, nearly best.

KENTUCKY STREAK.—A native of Kentucky, and disseminated in Georgia by Hiram Bradford, Esq. of Brownsville, Tennessee. In size it is from medium to large; oblate in form; of a dull green colour, striped with dark red; ripens in November, and keeps until February and March. It is the earliest bearer we know of, usually producing a few specimens the second year from the graft. It is altogether a desirable variety. Tree very vigorous and hardy.

MATTAUGA.—A native of North Carolina. Size large; form, globular; color, dark red; cavity large and deep; stem fleshy and surrounded by large patch of russet; flesh, white and pleasant acid; ripens in November, and keeps until January.

KITTAGESKEE.—Another native of North Carolina. Size, medium; colour, golden yellow; a little conical in form; pleasant acid; ripens in November, keeps until March and April; quality best.

CHESTOA, OR RABBIT'S HEAD.—An oblong conical formed apple; first rate keeper; colour, bright red; flesh, yellow; pleasant acid and quite aromatic. Tree vigorous, and a desirable variety for cultivation; size medium to large.

TILLAQUAH, OR BIG FRUIT.—Size very large; nearly globular in shape; colour, yellow ground, nearly covered with a marbling of dark red; flesh, yellow, juicy, and very pleasant flavor; ripens in October and November, keeps until December and January; quality *best*. Tree vigorous.

YAHOOLA.—A native of Lumpkin county, Ga., found growing on the bank of a gold pit. Size, medium to large; colour, greenish yellow striped with red; conical in form; of a pleasant acid; hangs well upon the tree, and keeps until January and February. Tree thrifty and of a straggling habit.

ELUSKEE.—Oblong and conical in form; of a dark red colour, nearly black; very hard and solid when taken from the tree in November; will keep until June; rather too acid to be first rate; tree hardy and thrifty.

HORN.—A native of Monroe county, Georgia. Size medium; quite oblate in form; colour, bright green and glossy, with a red cheek; hard as a billiard ball, and will keep eternally; of good juicy flavor, and every way desirable; tree as hardy as a horse apple, but rather a slow grower; quality nearly best.

SAUTA.—A native of Habersham county, Georgia. Size, medium to large; form, globular; colour, bright yellow; flesh white, and too acid to be first rate; ripens in November, and will keep sound a year; second or third rate as to quality.

COTTUGAJAH, OR RAW BREAD.—A native of North Carolina. Size large, nearly globular in form, a good deal ribbed; flesh yellowish, of fine flavor; ripens in November, and keeps until January and February; tree vigorous and a good grower; colour, pale yellow; worthy of cultivation.

LEVER.—A native of South Carolina; resembles the above variety in appearance very much, and may prove identical with it; we are, however, not prepared to speak positively until further trial. J. VAN BUREN.

Clover Fields for Wheat.

OAKLAND, May 18th, 1859.

To the Editors of the American Farmer:

Gentlemen:—I have been quite interested by several letters in your recent Nos. of the Farmer, upon the subject of the preparation of clover fields for wheat. This is a very important subject to the farmer, for I consider the judicious use of clover and plaster one of the most reliable and cheapest of all modes for the improvement of of land, as well as affording an excellent opportunity for a preparation for a crop of wheat. In the preparation of a clover fallow for wheat, two leading questions present themselves: First, the permanent and progressive improvement of the land while raising a good crop. Secondly, the raising an extraordinary crop regardless of the improvement of the soil while doing so. In regard to the first proposition, I would say turn under as much clover as a three horse plough will cover, in July, if possible. Let the land remain in that condition until a short time previous to seeding, when the clover, I think, will be to a considerable extent decomposed. Thorough har-

rowing and rolling will then give a good preparation for the seed. I will here observe, that in adhering to the above plan as near as I could, previous to the introduction of guano, and seeding Mediterranean wheat early in September, I, for a succession of crops, succeeded far better than I have since done with the use of guano and later seeding of what I will term fancy varieties of wheat, generally upon an oat stubble.

In regard to the second question, I am not prepared to say that upon highly improved land, if my only object was the obtaining what may be termed a brag crop of wheat, regardless of its effects upon the soil, I would not take a clean clover fallow. This, however, as a system, would evidently be a bad one as it must have a strong tendency to lessen the future production of the field.

Very respectfully, your's,
SAMUEL COMEGYS.

The Yopon, or Southern Tea Plant.

Class 4.	Natural order, 95.	*Ilex Vomitoria.*
Order 3.	*D. Ilicineae.*	*Yopon, S. S. Tea.*

Medical properties, *tonic, astringent.*

Forms a good beverage for the sick, particularly in fevers.

This hardy evergreen shrub is found coastwise on the Atlantic slope, from Albemarle Sound, North Carolina, to the Rio Grande, in Texas, and perhaps as far north as the Gulf of California, on the Pacific slope. It delights mostly in the poor, dry, sandy points and head-lands, among rocks and dreary glade-lands, and frequently on small creeks and rivulets. In the formation of that most unholy compound called chaparral, and which, to the muleteer and herdsman of Mexico and Western Texas, is so much in the way, so annoying, and so destructive to sacks, blankets, clothing, &c., the Yopon contributes at least a full proportion of scraggy hooks and irresistible snags.

The leaves of the Yopon, when collected in August or September, carefully dried in the shade, and put up in air-tight canisters, are, when made into tea of proper strength for table use, not inferior to the tea we find in market. Some people like it better, and certainly it exerts a less deleterious influence on the vital forces.

In the form of tea, it is a pleasant diaphoretic in sickness, and is peculiarly applicable to fever of all grades. In cases of fever attended with a dry skin and restlessness, it frequently acts kindly as a soothing diaphoretic. In many cases of slight bilious disturbances, it is sufficient to put the patient in bed, with a hot stone wrapped in a damp cloth to his feet, with blankets or quilts over him sufficient to keep him comfortable, and let him drink freely of the Yopon tea till he sweats the fever off.

In Florida, New Orleans, Mobile, and many other points along the southern coast, it has been long known and esteemed by the Indians and poor people as the best remedy for yellow fever—hence its specific name, Vomitoria—relying upon it solely in the most aggravated cases, and many of them recovering. The unavoidable conclusion is, that if the Yopon did not cure those cases there was no use for doctors; for they applied nothing else.—*Houston (Texas) Telegraph.*

[It is also found near Norfolk, Va.—*Eds.*]

U. S. Patent Office Report, 1858.

The following communication, from the Hon. Jos. Holt, (now Post Master General,) late Commissioner of Patents, was made to the Speaker of the House of Representatives in February last. The Report which accompanied it is now in press, and will ere long be published. The seeds of the Tea plant referred to have been sent in from China by the celebrated Mr. Fortune, who is now in the employ of our Government, and have arrived in safety at Washington. We have seen them and the growing plants which accompanied them. All are in excellent condition. The plants have a fine vigorous foliage, and the seed are in quantity sufficient to produce more than 100,000 plants. Many of those that have been planted in the small pots for propagation have already germinated, and give every promise of a healthy growth.

Much important information and many new and valuable seeds, cuttings and specimens of plants may be anticipated as the result of the labours of the very intelligent gentleman from New York now in Europe, and engaged in collecting such matters for the Patent Office; not only in those portions of that continent usually visited, but in Greece, Turkey, the Crimea, and Southern Russia generally.

In the Propagating Garden now attached to the Patent Office Department, the indefatigable zeal of D. J. Brown, Esq., is collecting many specimens of American grapes, with a view to testing their qualities and to disseminating, at a future period, such as may be deemed worthy of general cultivation in particular sections of this Union. We saw there during the past month many hundred seedlings raised from the seed of the famous El Paso grape.

U. S. Patent Office, Feb. 25, 1859.

Sir: Agreeably to the design of Congress, as indicated in the clause of the Act of June 12, 1858, "for collection of agricultural statistics, investigations for promoting agriculture and rural economy, and the procurement of cuttings and seeds," I have the honor herewith to transmit the agricultural portion of my Annual Report.

At the present brilliant epoch in an age of progress more eventful than any which has preceded it, the world seems to have reached a just appreciation of the relative values of facts and theories, and agricultural statistics have assumed importance alike in the eyes of the intelligent farmer, the manufacturer, and the political economist. With the exception, however, of the census returns of the last two decades, but little has been done in this country towards the collection and arrangement of the results of the operations of a single year, or of a series of years, in such form as would exhibit either a history or explanation of agricultural improvements or decline. With the startling facts before us that, instead of full

and abundant crops, in many parts of the older settled portions of our territory, the fields do not yield at present half as much as formerly, and, in many localities, not a third, nor even a quarter as much, without the application of extraneous manures—that, notwithstanding the abundance and cheapness of our virgin soil, the advantages of climate, the facility of transportation to available markets, and the untrammeled, lightly taxed and independent condition of our farmers and planters, the ratio of increase of the agricultural products of the United States is far below that of the increment of population, accession of territory, extension of commerce, manufactures, internal improvements, and the modern appliances for encouraging labor—this office felt justified, as one of the means of devising an expeditious and effectual mode of collecting agricultural statistics, in inviting a number of intelligent agriculturists from different sections of the Union to convene at Washington, with the view of imparting a knowledge of such facts in practical husbandry as might have come under their observation and experience, and to suggest means by which our crops might be increased, improved in quality, or made more profitable to the producer. In accordance with this invitation, an assemblage of citizens from most of the States and Territories convened at this office on the 3d day of January, 1859, who resolved themselves into an "Advisory Board of Agriculture of the Patent Office," and continued in session eight days. In the course of their deliberations it was unanimously recommended:

That, in order to carry out successfully the above named objects, Congress should by law provide for the enlightenment of the people by encouraging scientific and practical education in agriculture, in the establishment of colleges and schools.

That, from the manner in which the Agricultural Division of the Patent Office is conducted, no change in legislation by Congress is required, except increased appropriations, annually, for the promotion of objects similar to those which have been made and adopted heretofore.

That, the operations of the Patent Office, in connection with the Smithsonian Institution, in collecting meteorological facts, be continued, as well as the experiments now being made for the introduction of the tea plant, and the extension of the cultivation of wine.

That, the illustrations of the Agricultural Reports should be strictly accurate, and coloured if essential, though with due regard to economy, to insure which objects they should be executed under the exclusive control of the Department of the Interior.

In visiting, as a body, the various apartments and appurtenances connected with this Division, with the view of witnessing its working condition, the Board pronounced the results satisfactory, and no alterations were suggested. They also unanimously expressed the opinion that the introduction of trees, plants, cuttings, &c., by Government, has been attended by benefits to the people infinitely greater than all the expenses incurred.

The remainder of the sessions of the Board were chiefly devoted to the revision of a series of interrogatories previously prepared by this office, for eliciting information directly from the farmers of the country, and to the reading of papers on agriculture, several of which, as well as the former, appear in another part of the present volume.

This office, with the co-operation of the Smithsonian Institution, has during the past year continued its investigations in the physical condition of the United States, as an important aid in determining the adaptation of the soil and climate to particular products. The meteorological stations have been increased, appropriate blanks, rain gauges and other instruments have been placed in the hands of observers; and ample returns have been received, which have been reduced to a proper form for publication. It was stated before the Advisory Board that these observations would be specially applicable to the prevention of the evils consequent upon the overflows of the lower Mississippi, by placing river gauges under the charge of reliable persons along the river, and rain gauges at different points in the regions adjacent to its northern tributaries, for the regular transmission of reports of the amount of rain and snow fallen, to convenient points for timely publication. By means of a series of observations for a number of years throughout the valley, a system could be devised by which the residents of the low country would be able to prevent incalculable losses, often comprehending millions in the sacrifice of unharvested crops and plantation improvements, which would seem to justify the outlay that these observations would incur.

The agent employed to visit China for the purpose of collecting the seeds of the tea shrub and of other plants, when last heard from, had been successful in his mission, and was about to ship considerable quantities to the United States, which are presently expected to arrive. In order to secure the safe propagation of the tea plants, preparatory to their removal to the sites where the experiments are ultimately to be made, a portion of the public grounds in the City of Washington has been set apart, thoroughly under-drained with tiles, and a propagating house erected thereon for the germination of the seeds. In consequence of the length of time required for the transmission of seeds from China to the United States, and the accidents to which they must unavoidably be exposed, this office has taken measures to procure tea seeds of the same species from Brazil. From further investigations of our soil and climate, and of the history of a former attempt to introduce the culture of this important plant, I am strongly encouraged to anticipate the success of the pending experiment.

With the view of increasing the products and improving the rural skill and industry of the United States, this office has availed itself of the services of a gentleman visiting various countries of Europe, to procure the seeds and cuttings of such trees, shrubs and plants as may be adapted to our economy, to learn in detail the process employed in the preservation and manufacture of their fruits, and to obtain such other information and articles of interest as may hereafter be desirable.

In prosecuting the extension of the grape and wine culture of the United States, several thousand cuttings of the Zante currant vine and of other grapes have been obtained from the Ionian Isles, as well as large quantities of the acorns of the cork tree from the South of Spain, all of which

have been distributed in portions of our territory, where it is believed that they will thrive. Considerable quantities of the seeds and cuttings of our native grapes have been obtained from various parts of the Union, and planted on the ground alluded to above, with the object of producing new varieties, and of testing their adaptation to the climate of various sections of the country, and their value for table use and for making wine. From the zeal and lively interest manifested in the grape culture in this country, and its unprecedented increase, we are led to expect that these experiments will be crowned with success.

Two chemists have been commissioned at different points in the Union to make investigations in the quantitative analyses of the ash of the tobacco plant, and of the soils in which it grows, with the object of determining its influence on the land, and assigning to it a proper place in the rotation of crops. They are prosecuting their inquiries, the results of portions of which appear in another part of this volume.

The entomologist employed to experiment upon the insects infesting the orange groves and cotton fields in Florida, the past season, has brought his labours to a close, the results of which are also embraced in the present volume.

Among the seeds and tubers which have been imported or made the subject of experiment in this country within the last year, it may be stated that the Bald Barley, from Italy; the Polish Wheat or Giant Rye, and Turnip seed, from England; the Chufa, from Spain; and several varieties of wheat, of domestic growth, bid fair to surpass all that was anticipated of them in previous reports.

The experiments with the Chinese Sugar-cane have proved eminently successful throughout portions of the Southern, Middle and Western States, 100,000 acres, by estimate, having been occupied with it the past season, attended with at least a net profit of two millions of dollars, in fodder, sugar and syrup, and other economical uses.

The seeds of new and improved varieties of culinary vegetables and ornamental flowers, have been widely disseminated throughout the country—especially in the western and newly settled districts where most of them had been little known—and it is gratifying to be able to state, upon the authority of credible reports, that the success and appreciation of them, have served to excite a general interest in their culture.

Although the instances herein given are sufficient to show that millions have already been returned to the country in profit for the thousands expended by Government, the greatest advantages doubtless lie in the schemes to which allusion has been made, which require a longer time for their execution. In proof of the general success of these efforts, it is worthy of remark that, within the last four years, the number of Agricultural Societies in the United States—the statistics of which, commenced in the Agricultural Report of 1857, are continued as fully as the information thus far obtained will permit—has increased in a ratio of two or three fold, and that the members of these societies have augmented in a still greater ratio, while agricultural schools and colleges are being formed in several of the States, with promise of a race of intelligent farmers, such as few countries have ever possessed—men familiar alike with the teachings of science and the duties of the field.

All of which is respectfully submitted.

JOSEPH HOLT, *Commissioner.*

Hon. James L. Orr,
Speaker of the House of Representatives.

The Disadvantages to which our Agriculture is subjected, and the Remedy.

From the Address of Col. Geo. W. Hughes before the Frederick County Agricultural Society.

The condition of the agriculture of a nation at any given time in its history, may be taken as a fair type of its civilization and power. No country can be truly great where it is neglected, and where its people, despising the honest labour of the husbandman, seek other, less laborious, but at the same time less honorable occupations. The military strength of a government and its internal security also mainly depend on its rural population, whose instincts, employments, and interests all tend to render them conservative. The capitalist, in troublous times, may seek a refuge elsewhere, and remain till the storm blows over. The loyalty of the merchant naturally leans towards the nation with which he trades and from which he draws his gains, rather than to that of which he happens to be a citizen. But not so the farmer. He is tied to the soil. He is identified with his government "for better or for worse." He is sensitive to its honour, and proud of its prosperity, in which he participates. His policy and his feelings are for peace with all nations; but not at the sacrifice of the rights of his own country. War he justly regards as an evil, but not the greatest of all evils; for the greatest of all is national degradation.

The products of the earth, its agriculture, its forests, and its mines, and the labour which gives value to the raw materials, constitute the wealth of a nation. It is a great mistake to consider money alone, or its equivalent in stock investments, as capital, for it forms but a small portion of the capital of a country. It has been estimated by one of our greatest statesmen as less than one-thirtieth of the whole. Money is the result and the evidence of national prosperity, and currency is simply a means of facilitating exchanges; but no country can be truly prosperous, whatever amount of money she may possess, that does not produce the articles of first necessity. Money is neither food, nor raiment, nor machinery. Money may purchase them all by way of exchange, but the things must first exist. It has been well and truly said by a distinguished writer:

"If by any means the amount of money in a country could be increased without a proportionate increase in the amount of everything else, the prices would only be raised without increasing actual wealth, because a greater quantity of cash would be put in the balance with the same quantity of merchantable articles. Money, then, is not wealth; it is the result of wealth, and increases gradually with wealth. In proportion as business activity increases and industry and commerce become more developed, the products more numerous, must be exchanged more frequently and with greater rapidity; traffic must increase

in the same proportion as production. Then money, the medium of exchange, must become more abundant, because it is always attracted where it is needed. Soon, to money, a slow and expensive means of exchange, must succeed bills, a means easy, prompt, and, above all, economical. Banks will certainly be established; they are the result of an anterior prosperity, and serve effectively to increase it, but never precede it, because the creation of products must precede the demand for their circulation."

It is a popular error to establish banks for the purpose of creating business. They have their uses in facilitating the exchanges of one commodity for another, but they create absolutely nothing.

We have said, in general terms, that agriculture is the parent of all other interests. This is certainly true of our own country. It has been estimated by official authority, on the most reliable data within reach, that in 1854 the value of the agricultural productions of the United States amounted to the enormous sum of $1,600,000,000, which was no doubt greatly exceeded by the following year. The federal census of 1840 shows under the head of "occupation of the free and slave population of the United States of both sexes and all ages," that of an industrious population, including the learned professions, of 4,796,407, 3,717,756 were employed in agriculture—that is, nearly three-fourths of the whole. The census of 1850 does not give the positive number of persons engaged in agricultural employments, but on a certain assumption states the ratio at 280.20 to every one thousand of aggregate population, and of all occupations at 514.36; whilst in 1840 it was 217.80 to every one thousand, and of all industrial classes 280.99. These facts would seem to show a large proportional increase in the various departments of labor; but the returns are not as specific and reliable as could be desired, and can be regarded only as approximation to the truth. They are perhaps near enough for our purpose. At any rate, we cannot greatly err when we assume that nearly *three-fourths* of our labouring population (excluding the learned professions) are employed in the cultivation of the earth.

One would naturally suppose that so vast an interest, involving the happiness and prosperity of so large a proportion of our people, and the support and strength of the government itself, would demand and receive the especial attention of the federal legislature. But so far from it, one, and not the least important, of its co-ordinate branches has so totally ignored the subject as to dispense with even a committee on agriculture, as if it were a matter of profound indifference to the Government of the Union. There is scarcely any other department of labor or of enterprise that has not received its fostering care.

It is true, the farmer neither needs nor requires its *bounties*. All he asks is to be left alone, in the quiet enjoyment of the fruits of his industry, and not taxed for the benefit of other interests; and that he may be *protected* in his property against impositions from whatever quarter they may arise. This he has a right to demand, and if true to himself will secure.

The farmer has many difficulties to encounter in the prosecution of his arduous and precarious profession. He is exposed to the vicissitudes of climate—to factitious fluctuation of prices—to the depredation of the Hessian fly, the weevil, the army worm, and of other insects destructive to vegetation. But there are other, and perhaps greater, evils than these to which he is subjected. He is a prey to the attacks of more formidable enemies than the fly and the army worm, who remorselessly eat up his substance. I mean the *bears*; not, my gentle hearers, the savage animals described by naturalists under the classification of the *Genus Ursus*, but the wild beasts who frequent the corn exchanges of our commercial cities. The greatest curse on earth to the farmer is the speculator in breadstuffs, who sells largely on time, without expecting actually to deliver to the purchaser a single bushel of grain or barrel of flour, and then by the moving power of money sets the commercial press to work to lower prices. This is gambling with the *daily bread* of the people, and to the infinite injury of all classes. The farmer may recognise in ravaged fields, and the blight of teeming harvests, the chastening dispensations of an All-Wise Providence, who overrules everything for good—perhaps as a punishment for sins committed or duties unperformed; but it sorely tries his patience and forbearance to be told, in contradiction to the evidence of his senses, that he has made large crops, and that therefore *low prices must rule* until he has sold the meagre fruits of his toil, and then, *presto!* there is a marvellous change in the tune, and it is suddenly discovered that the crops were short the last season, and prices are run up to an unnatural height, and the non-producer pays, in the end, more than the average value of what he consumes; so that no one is benefitted by these operations but the speculators and the instruments they employ.

Early in each year, long before even a shrewd Yankee could possibly *guess* the probabilities of the harvest, the same cuckoo note is heard of the great and extraordinary promise of the wheat fields—that the *present* year will far exceed those of any previous seasons, and urgent appeals are made to farmers to hasten their grain to market as prices cannot be maintained. A sufficient illustration of the truth of these remarks can be found in the experience of the present year; and when the real state of the case can no longer be concealed, we are exultingly pointed to the overflowing granaries of Europe, and are told, with or without foundation, that there can be no call for exportation. Year after year we are assured that the supply exceeds the demand, and yet every year the cry of starving thousands ascends to Heaven.

There is a very erroneous impression on the public mind in reference to our surplus production of breadstuffs. In truth the annual excess of breadstuffs beyond our domestic consumption is comparatively small; nor has it largely increased since 1850, when the federal census was taken. The increased production of wheat does not keep pace with the augmentation of population. The census of 1850 shows the increase of population during the preceding decade at the ratio of 36 per cent., whilst that of wheat was only 19 per cent. The exports of wheat last year from this country was the largest ever known; but to all parts of the world did not exceed

30,000,000 of bushels, or the equivalent in flour. How much of this amount was *Canadian*, brought into direct competition, *free of duty*, with our own, I have not been able to ascertain; but it was probably nearly one-half. It has been stated on the authority of the late Mr. Holcombe, of Delaware, and I know of none more reliable, that in 1855, while we were *apparently* exporters of wheat to a considerable extent, we were in reality *importers*, a most startling fact,—12,000,000 bushels of wheat having been introduced into this country in that year, under the so-called "Reciprocity Treaty" with Canada; and it has been a matter of boast with one of our leading newspapers, that the British Provinces of North America are good for an annual importation of 16,000,000 of bushels of wheat. It appears from the custom house returns that in the year before referred to there were introduced from Canada through the port of Oswego alone 10,000,000 bushels of wheat and that we exported, to all parts of the world, that year only 6,821,584 bushels or less by 3,178 than we imported through a single port of entry. According to Mr. Holcombe it was in all less by more than 5,000,000 of bushels and this is probably nearer the mark.

I have long believed that the only probable means for the correction of the abuses to which I have alluded would be found in the establishment of an Agricultural Department of the General Government, with a cabinet minister at its head and a sufficient staff of subordinates to collect from time to time, in conjunction with State and county societies, reliable information of the annual breadth of wheat seeded, and corn, tobacco and cotton planted,—the prospects of the growing crops, and an approximate estimate of the yield of the harvests. These investigations might with propriety be extended to foreign countries. This might not prove a perfect remedy for the evils complained of; but it would tend to prevent the recurrence of them. Had such a department been in existence when the reciprocity treaty was negotiated—a scheme which taxes the agriculturist for the benefit of the merchant, the shipper, the fisherman, the lumberman, and the railroad companies of the north, it would not probably have been consummated. I do not wish by these observations to be understood as being opposed to the *principles of free trade;* but let them be of universal application, and not to the farmer alone, who pays tolls in some form or other on almost everything he buys, whilst there is *practically* no protection for the products of *his* capital and labor. There is scarcely an article he uses that is not heavily taxed, even to the implements of husbandry. If imported he pays the government: if manufactured at home he pays the inventor for his patent, so that for him there is no exemption.

God has endowed men with different faculties of mind and body. To one he gives a love of letters—to another a genius for the fine arts, or for poetry and eloquence—to another adaptation to the learned professions—to another a capacity for the acquisition of money, and to another mechanical ingenuity. These are the *free gifts* of the Creator, and may be said to constitute men's *natural capital*. There can be no good reason then, why the inventor should not possess the same rights of property in the machine he contrives as other men in hereditary or acquired wealth. And yet the patent laws of all nations seem designed to restrict rather than to protect the rights of inventors.

The question may well be asked, in this connection, whether some plan might not be devised by which the inventor should be more effectually secured in the rewards of his toil and ingenuity than by existing laws, which lead to almost eternal litigations; and at the same time relieve the community from a burdensome and vexatious impost.

I am aware that serious doubts are entertained in many quarters as to the constitutional powers of Congress to authorize the establishment of an agricultural bureau or department. It may be sufficient to say in answer to this objection that if Congress possesses the power to attach, for agricultural purposes, a bureau to a bureau of an executive department—to send agents abroad to collect plants and seeds—to pay others for chemical analysis, and to investigate the habits of insects injurious to vegetation—to report on the drainage of the Lake of Haarlem and to spend money for the engraving of animals and the printing of agricultural papers (all very useful expenditures,) it must needs have the right to do the same things by direct legislation and by a more perfect machinery than it now employs. To continue matters as they now are is a mere mockery—a trifling with the *great interest* of the country. The business should be well done, or not done at all.

Appearance of the Grasshoppers.—Within the past ten days or two weeks, thousands upon thousands of small grasshoppers have made their appearance on some farms in Upper and Lower Makefield, and other townships in this county, where they were so abundant last season. They are yet quite small but apparently active and vigorous, and have voracious appetites, as their ravages upon the young clover already show. The presence of these destructive insects at this season is something unusual, and has filled the minds of many farmers with fearful apprehensions. Although the grasshoppers were very numerous throughout the greater part of Bucks county last year, very few of them were seen before the middle of summer. What their appearance so early in the summer denotes, remains to be seen. An observant and intelligent farmer of Upper Makefield informed us that a prodigious number of young grasshoppers had appeared in a field which he had just planted with corn, and in which he had wheat last year. Those insects having destroyed all the grass in the wheat stuble last fall, he was obliged to plough it up this spring. They have taken possession of every bunch of grass to be found in the field or along the fences, and are now feasting upon it. When these become larger, of course they will be more destructive to the growing crops.—*Bucks Co., (Pa.,) Intelligencer, May 24.*

Honey Bees.—A sale of honey bees at auction took place last Tuesday. The original invoice was eighty-five hives, but only forty-nine were offered and sold. The best hives brought $72.50, and then ranged from that down to $16 a hive.—*California Farmer, March 25.*

The American Farmer.

Baltimore, July 1, 1859.

TERMS OF THE AMERICAN FARMER.

Per Annum, $1 in advance—6 copies for $5—13 copies for $10—30 copies for $20.

ADVERTISEMENTS.—For 1 square of 8 lines, for each insertion, $1—1 square per annum, $10—larger advertisements in proportion—for a page, $100 per annum; a single insertion, $15, and $12 50 for each subsequent insertion, not exceeding five. Address,

N. B. WORTHINGTON,
Publisher of the "American Farmer,"
CARROLL HALL, S. E. Corner Baltimore and Calvert streets, Baltimore.

A New Series.—Volume One.

Having completed fourteen volumes, the number of the old first series, we commence with this issue another series and a new enumeration, making this *volume one* of a fifth series. Our many new subscribers will have an opportunity of starting with us on a new tour, and old and new we trust will travel on together with us through many years of pleasant, and may we say, profitable intercourse.

We have little to say in opening a new volume by way of preface or profession. We wish rather to be judged by what we do, than by any thing we may say of ourselves. We will take the occasion, however, to say, what we think it is a matter of some interest to our readers to know, that as proprietor of a magazine professing exclusive and independent devotion to the interests of agriculture, we have no by-interest of any sort to subserve, and that apart from our property in it, we have not one dollar's worth that we do not hold in common with the great body of landholders South of Mason's and Dixon's line.—Our connection with the *American Farmer* is a natural one. It has resulted from an inborn and inherited taste, cultivated and matured by many years of agricultural experience; from a conviction that there is no work of usefulness more promising than that which is calculated to make agriculture more profitable to the landholder, and our country homes, the nurseries of the country's life, more attractive to the rising generation. This work we are aiming to do by the best means at our command, and we expect to reap from it the pecuniary recompense due to well directed labour, and a higher reward in the approval and good will of those for whom we labour. But we want these rewards for *work done*. We cannot seek them for any fictitious value given to our services, by a system of self-laudation, and of clamorous devotion to the interests of agriculture. We cannot even spend our time in tilting at every wind-mill that shakes its wings in the presence of the agriculturist. These are popular and profitable tricks, but they are for the most part *only tricks*. We shall avoid them and trust for support to those who appreciate the services we render and are willing to pay for them.

PREMIUMS.

☞ We beg to call the attention of all readers to our premium lists and commissions, which appeared in our June number and now in our advertising sheet. We say all of our readers, because there is not one we suppose who may not do something toward the purpose to which it is directed. What one among you may not induce one other to subscribe, or five others, or ten others perhaps, and that with little trouble. Or may you not induce some proper person to give his attention to our premium list, and canvass his county for votes for the *American Farmer*. We have many, very many good friends in Virginia for instance, Democrats and Opposition, who have just ceased to use an extraordinary amount of machinery in canvassing their several sections for party uses; might not some of it now be used, profitably, in behalf of the *Farmer*, and nobody the worse for it, and we and the subscribers the better for it. We ask the favour of every one to send us one new name at least, and you, good sir, who are reading your neighbour's paper, please send your name and *your dollar*.

Maryland State Agricultural Society.

By reference to the proceedings of the Executive Committee, on another page, it will be seen that the annual meeting of the Society and its Twelfth Annual Exhibition will take place at Frederick, beginning on Tuesday, the 25th day October, and continuing until Saturday. The list of premiums is in all respects, we believe, as last year.

THE MARYLAND SLAVE-HOLDERS' CONVENTION.—We shall publish in our next, for preservation, the very able Report to this Convention made by Senator Pearce on behalf of the Committee to draft Resolutions. The report discusses the subject of the free negro population of Maryland, and disposes of it in a manner which proved as satisfactory to the Convention as we have no doubt it will to the people of the State at large. It is cause of congratulation that the matter has been so prudently and wisely treated.

To Advertisers in the Farmer.

Advertisers will please observe that hereafter the *Farmer* will be issued at least a week earlier than heretofore, and therefore all matter for publication must be furnished as early in the month as practicable. Any change wanted in standing advertisements we should be notified of before the 10th, and new advertisements furnished by the 15th, in order to ensure their insertion.

☞ Several letters for information are on hand, which by accident have been overlooked; and will be attended to in our next. One on the preparation of ground for a lawn on wood land —kind of grass seeds for it, and where to be obtained, &c. One on the extirpation of Sassafras from fields and "flags and star grass" from yards and gardens—best method of using tobacco stalks —cause of rapid decay of pines and Lombardy poplars in Stafford Co., Va., and several other letters and communications, just received in time to make this note.

☞ We are greatly gratified by the promptness with which a large mass of our subscribers whose subscriptions are now due, have responded to our notice last month, by sending on their several amounts, and by the uniform kindness and good will which their letters exhibit. One subscriber gives us a pleasant scolding for sending him a bill which has already been paid, (an accident, which we are very sorry has happened in several cases,)—not that he objects, he says, to be dunned, but because the little yellow bill "sticks out," and he is very unwilling to have his neighbours think that he does not pay for *The American Farmer*.

The Hot Springs and the Healing Springs of Virginia.—In our May number appeared an extended advertisement of these popular and valuable places of resort for invalids. The testimonials in behalf of both are of a very high order, and indicate the extraordinary curative qualities of the waters. They afford at the same time the most delightful pleasure baths. Being near each other—but three miles apart—a visit to both is very practicable, and we ask the attention of invalids and pleasure-seekers in the mountains of Virginia to these attractive places. Read again the advertisement in our May number.

Gates Co. (North Carolina) Agricultural Fair will be held at the fair grounds in the village of Sunbury, Nov. 1st and 2d, 1859.

United States Agricultural Society.

We are pleased to hear through Gen. Tilghman, President of the United States Agricultural Society, that an arrangement has been entered into, entirely agreeable to the Society, and very liberal on the part of the city of Chicago, for holding the next exhibition of the Society at that place. The 12th of September, we learn, is the day on which the exhibition will commence.—The premiums offered amount to $20,000.

The Peach Crop in Cecil Co., Md.—One of our Pennsylvania exchanges says that information of the prospect of a heavy crop of peaches in the vicinity of Cecilton has been given to that paper by gentlemen interested in growing peaches, and mentions especially the orchards of Mr. Anthony Reybold and of Mr. Joseph Briggs as likely to yield very handsome returns. Mr. Reybold, it states, has about 600 or 700 acres in trees in Maryland, and has planted 27,000 trees the present year. One gentleman near Cecilton is mentioned whose orchard has been planted 14 years and is now in full bearing, and who for three years in succession cleared $600 per acre from his trees.

The intelligence however in the *Delaware Republican*, published at Wilmington, Del., is rather more definite and not so gratifying. It says: "We are informed by James V. Moore, Esq., that there will not be more than one-fourth of a crop of peaches in the lower section of this county, reports to the contrary not having been based upon reliable information. It is also stated that the orchards of Anthony Reybold, Esq., and others, in Cecil Co., will not yield more than half a crop."

Another Alderney for Maryland—The imported Alderney bull "Relief," says *The Village Record* early in last month, passed through West Chester on his way to Maryland, and adds: "This animal is considered one of the finest specimens of the Alderney stock in America. He was sired in the Island of Jersey, and was bought by Dr. George Thomas, of West Whiteland, Chester Co., who paid $175 for him when he was a calf. He is now about five years old, and was sold last week to J. Howard McHenry, an eminent farmer in the vicinity of Baltimore."

☞ The first No. of the "Rural Register," by Messrs. Sands & Mills, is received just as we are going to press, and we are in consequence only able to note its appearance. It is handsomely printed in quarto form, and devoted to agriculture, the family circle and general intelligence.

☞ We ask attention to the advertisement of our business agency on our advertising sheet. Notwithstanding the notice given a year ago, that we declined to engage in the business of furnishing manures, stock, &c., the numerous demands upon us from time to time indicate that there are a large number of persons among our subscribers who would be glad to avail themselves of our agency in these matters. Having, in our position here, the best opportunity of a knowledge of the market of fertilizers, machinery, and all such things as the farmer may require, and of judging of their relative character and value, we propose now to receive and execute their orders on the best terms which the market affords.

With regard to fertilizers we propose to furnish them under the guarantee of the *known* constituents of each lot, as ascertained by a chemical analysis, and for this purpose we have engaged the services Dr. A. Snowden Piggott, a chemist in whose examination the utmost reliance may be placed from his known character as a chemist and a gentleman.

With no intention to throw any imputation upon the trade generally, the adulteration of some, and the inequality in the character of other fertilizers, as sold in the market, is not only the cause of frequent, serious loss to individuals, but a material injury to the honest trade, and to our agriculture generally, by creating distrust of articles of real value. A case has come recently to our knowledge of a farmer purchasing ten tons of Mexican guano as containing 80 *per cent.* of phosphate of lime, which being submitted to chemical analysis was ascertained to be comparatively worthless. We take pleasure in saying that in this case there was no reason whatever to doubt that the merchant who sold it had himself been imposed on. But this very fact shows the importance of some guard in addition to the personal character of the merchant. So far as we may be called on we propose not to warrant that the fertiliser we furnish will certainly act well on this or that soil, but that it is certainly what it purports to be.

We wish to say at the same time that we have no personal interest whatever in any particular fertilizer, implement or machine, but are perfectly free to search the market for the best.

With regard to fruit trees of every sort now in such large demand. The country is scoured by agents engaging to furnish trees in the Fall. While some of these are undoubtedly reliable, it is well known that the grossest frauds have been perpetrated and that of the most aggravating sort. We propose to give this matter our particular attention, and to get our orders filled from a source that we know to be entirely reliable. We ask attention again to our advertisement.

The Crops and the Weather.

At the time of our writing (June 16th) it is impossible to form any idea of the probable result of the Wheat harvest. The growth generally, though extremely good at an early period of the spring, is, on the whole, by no means as heavy as last year. The fallow-fields are, for the most part, heavy and promising. From very many sections we hear of damage to the crop—in some by rust, but confined, as yet, to the blade. The very cool weather has had a tendency so to harden the straw as to preserve it we hope, from farther damage. There is a good deal of fly in some places; in some, joint worm, and in some, army worm. The midge or weevil has caused much uneasiness in a portion of Maryland. One gentleman in Harford county apprehends the entire loss of a heavy crop. We are not prepared to say, as at present advised, that the amount of loss from these various sources will affect the average crops of Maryland and Virginia materially, but shall hope, without further disaster, that the crop may be a good one. We heartily wish it may prove so, and that the labours of the farmer may be abundantly rewarded by a good price for a good crop. The farming community have not, for a very long time, been so much in need of success as just now.

The Corn is reported as unusually backward—the natural result of late planting and the very cool weather of this month. It is remarkable that during a number of days in June, constant hot fires have been agreeable, and sharp frosts have occurred.

We ask as a particular favour that our friends and correspondents, in all directions, will give us, after harvest, the best estimate they can of the yield of grain.

IMPORTED THOROUGHBRED STALLION FOR KENTUCKY.—Mr. A. K. Richards of Scott Co. has imported the "Knight of St. George," winner of the St. Leger in '54. Sire, Irish Bird Catcher; dam by Hetman Platoff, out of Waterwitch, by Sir Hercules; her dams, Mary Ann, by Waxy Pope, out of Witch, by Sorcerer; Precipitate, by Highflyer, &c.

An interesting communication from "Well Wisher," of "Severn Side," too late for this No.

The Grain Inspection Law.

We neglected to notice in our last the decision of the Court of Appeals, reversing that of the Court below, and sustaining the view of the law taken by the Inspectors, viz: that in weighing one bushel in sixty, according to the usage here for many years, the law was satisfied. This decision settles, of course, the question between the Inspectors and the dealers.

It is unfortunate that the value of the inspection law should not have had a fair trial, by requiring the inspection of all the wheat brought to the market. As it is, it stands in the unfortunate predicament of having been enacted for the benefit of the grain grower, and of being signally repudiated by him. Not one-tenth of the wheat brought to market since the law came into existence has been inspected, because the farmer himself would not have it inspected. It is true, as will be urged, that this was owing to the obstacles thrown in the way of its operation by business men in Baltimore, but it is equally true that these were chiefly the agents of farmers themselves, and it is still their own action.

Now we submit to the advocates of the law, who contemplate, we know, such an amendment as will make the inspection compulsory, in the face of this *apparent* objection to it, it is important that they should be at some pains to satisfy those most concerned that a measure looking exclusively to their interest is likely to be of essential service to them. Let it be borne in mind that grain growers of Virginia, North Carolina and other States, are interested in what affects this market. The minds of these gentlemen can be reached through our columns, and we invite a discussion of the subject.

It has been suggested that the method of weighing should be substituted for measurement—requiring, of course, the weight of every bushel. We are not prepared to say how far this may be practicable, or whether it might be done without too heavy charges for the necessary handling. Could it be done, the cost of measurement would, of course, be dispensed with. In such case the captains of vessels would be required to have scales on board their boats, and to receipt to the farmer for so much weight instead of so many bushels.

Our own opinion is, that the law, if perfected, will be a good one for the producer and fair for all concerned, but we should object to having it forced upon the grain growers without a more general acquiescence on their part.

☞ Articles on Entomology, Drainage and Fish Growing in our next.

Horticultural School for Girls.—We have read with much pleasure the notices in the New York papers of the Horticultural School for Girls, to be established by Mrs. Phelps and other ladies of that State, upon Long Island. This is an enterprise that cannot be too highly commended and encouraged.

There are very many of the operations of the horticulturist that require but little physical exertion, and that females are perfectly competent to perform. Budding, grafting, pruning, planting seeds, light hoeing, gathering and packing fruit, and all the work in the greenhouse, hothouse and grapery can be just as well performed, and in many cases much more skillfully executed by girls and women than by men.

We are glad that there is a prospect that this field of labour, so healthful and so appropriate, is to be opened to the female portion of our people, and especially that the crowded population of such a large city as New York, will find, for the gentler sex, a choice between the unhealthy sedentary occupations they now pursue, in badly ventilated apartments, and those that they may engage in, in the pure air of the country, within the inclosures of the new Horticultural School for Girls.

We hope a similar institution may be established further South.

Coloured Engravings of Fruits and Evergreens.—We have received from D. M. Dewey, Esq., the enterprising bookseller and publisher at Rochester, N. Y., some more of the very handsomely coloured engravings of fruits and plants which he is now engaged in publishing. Having secured the services of excellent draughtsmen and good colourists, Mr. Dewey's plates may be relied on as giving correct representations, both of the colour and form of fruits. We have been, previously, indebted to him for quite a number of specimens of his publications of this character, and have them framed and suspended in our office for inspection. We are indebted to him on this occasion for engravings of the "*Swan's Orange*," Pear; "*Golden Nectarine*;" "*Champagne*," "*Green Walnut*," "*Pitmaston's Green*," and "*Sulphur Yellow*"—Gooseberries; and of the following Evergreens: "*Cedar of Lebanon*," "*Austrian Pine*," "*Scotch Pine*," and "*American Arbor-vitæ*."

Union Agricultural and Mech. Fair at Eminence, Ky., commences on Tuesday, 20th September, and continues 21st, 22d and 23d. Robert Mallory, Esq., is the President, and William B. Wilson, of Eminence, Secretary.

Top Dressing with Putrescent Manures.

The subject of manuring generally is one of especial interest to the Farmer, and it is of the utmost consequence that right principles should be established and promulgated. Several years ago we began to call attention to this subject of surface manuring, not as a new thing, not as claiming any originality with respect to it, but because an old *theory* almost universally received, and constantly maintained by writers claiming to be scientific, stood in its way. It was the theory that the waste of ammonia by the exposure of putrescent manure upon the surface was a loss of its whole value, and that to leave it so exposed was to throw it away. It required some courage in the face of every thing almost that was considered authority, and the very general sentiment of the farming community to set forth the opinion which we expressed in the May No. of the *Farmer*, 1856. "Nor is there any occasion for accumulating manures in stable and barn yards, to be carried out carefully at the busiest season and spread before the plough, and turned under immediately "or sooner," according to the stereotyped directions for such cases made and provided. They may be and should be taken away from time to time before they accumulate, and spread out upon grass land or corn land, or wherever there is occasion for them. We know that teachers of science will shake their heads over the wanton waste of *ammonia*, but we cannot help it. We *know* that these suggestions will stand the test of trial, and practical men must stand by their facts. If the doctors do not understand how it is, let them bide their time. When science becomes more familiar she will explain it to them."

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besides the White Bigarreau and the Black Eagle. *Houghton's Gooseberry* was exhibited at both shows, and Cut Flowers, both in bouquets and in vases, by many contributors.

New Books.

American Weeds and Useful Plants.—This is a second edition of the Agricultural Botany of Dr. William Darlington, of West Chester, Pennsylvania, and contains, to quote from the title page, "an enumeration and description of useful plants and weeds, which merit the notice, or require the attention of American agriculturists." This edition has been revised, with additions, by Prof. George Thurber, of the N. Y. College of Pharmacy, the advanced age of Dr. Darlington indisposing him for the labour of a revision. The illustrations, which are very numerous, are remarkably well drawn and engraved. The Glossary of botanical terms used in the book is very full and clear, and, with an index of the English and foreign names of the plants, gives much satisfaction to the reader.

The intelligent farmer will find this small volume an useful and ornamental addition to his library. It is published by Messrs. A. O. Moore & Co., N. York, in one volume 12mo. of 458 pages.

"*The American Home Garden*, being principles and rules for the culture of Vegetables, Fruits, Flowers and Shrubbery, to which are added brief notes on farm crops, with a table of their average product and chemical constituents." By Alexander Watson. This is a work of moderate size, in one volume 12mo., published by Messrs. Harper & Brothers of N. York. It contains illustrations of farm and garden implements, of insects, of vegetables, of the various modes of propagating plants by grafting, budding, layering, inarching, &c., and of the various tools and implements used in those operations, of fruits, including many outlines of Pears, Apples, Peaches, &c. and of the processes of pruning and training the vine and fruit trees. The author has evidently taken a great deal of pains to condense in a small space a large amount of information, and has certainly succeeded in bringing it within an unusually small compass, considering the extensive field comprehended within the limits of his undertaking. The amateur and the beginner, in farming and gardening, will find in it much that is useful and instructive.

How Plants Grow, a simple introduction to structural Botany, with a popular Flora or an arrangement and description of common plants, both wild and cultivated.—This is a most admirable little work by Prof. Asa Gray, the celebrated Botanist. It is intended as a botany for young people and common schools, but "children of a larger growth" will find it both instructive and entertaining and very valuable to every beginner in the study of botany. It has reached a second edition and is illustrated by 500 wood engravings. Published by Ivison & Phinney, New York.

We are indebted to Sidney G. Fisher, Esq. for a little volume, very modestly styled "Rustic Rhymes," by the author of "Winter Studies in the Country," and (we "guess") of the article on Lawns and Parks in our June number. A hasty run through it gives us the impression that it contains much sound philosophy as well as good poetry, and that it is inspired by a hearty love of what is good and beautiful in country life.

Hints to Horse-Keepers.—This is the title in part of a new work of 420 pages 12mo., recently published by Messrs. A. O. Moore & Co., New York. The remainder of the title is: "A Complete Manual for Horsemen, embracing how to breed a horse; how to buy a horse; how to break a horse; how to use a horse; how to feed a horse; how to physic a horse (Allopathy and Homœopathy); how to groom a horse; how to drive a horse; how to ride a horse; and Chapters on Mules and Ponies. By the late Henry William Herbert (Frank Forrester), with additions, including 'Rarey's Method of Horse-Taming' and 'Baucher's System of Horsemanship;' also giving directions for the selection and care of carriages and harness of every description, and a Memoir of the author. Beautifully illustrated."

This title is so very full as almost to dispense with any further information as to the contents of this work. It was commenced by the late unfortunate Mr. Herbert, but not much more than the outline was sketched by him before his sudden and violent death brought his labours to a close. The work has been completed by another hand, and is well and carefully compiled. The illustrations are unusually well executed.

Farm Drainage.—Messrs. A. O. Moore & Co. of N. York have just published a work bearing this title, and written by Henry F. French of N. Hampshire, a well known writer upon agricultural topics and a frequent contributor to that excellent periodical, the New England Farmer. It contains very numerous illustrations of the different modes of draining, implements for draining, draining tiles, tile-making machines, &c., and comprises 24 chapters. The best general idea of the contents of the work will be gathered from the titles of these chapters, which are as follows: 1. Introductory. 2. History of the Art of Draining. 3. Rain, evaporation, and filtration. 4.

Drainage of high lands—what lands require drainage. 5. Various methods of drainage. 6. Drainage with tiles. 7. Direction, distance, and depth of drains. 8. Arrangement of drains. 9. The cost of tiles—tile machines. 10. The cost of drainage. 11. Draining implements. 12. Practical directions for opening drains and laying tiles. 13. Effects of drainage upon the condition of the soil. 14. Drainage adapts the soil to germination and vegetation. 15. Temperature as affected by drainage. 16. Power of soils to absorb and retain moisture. 17. Injury of land by drainage. 18. Obstruction of drains. 19. Drainage of stiff clays. 20. Effects of drainage on streams and rivers. 21. Legislation—drainage companies. 22. Drainage of cellars. 23. Drainage of swamps. 24. American experiments in drainage—drainage in Ireland.

A Practical Treatise on the Hive and Honey Bee, by L. L. Langstroth. New York: A. O. Moore & Co. Third edition, revised, and illustrated with 77 engravings. This latest edition of the very valuable and interesting work of the Rev. L. L. Langstroth, contains all his discoveries and improvements and "is adapted," as he says in his preface, "not only to those who use the Movable-Comb Hive, but to all who aim at profitable bee-keeping, with any hive, or on any system of management." This gentleman having been prevented by ill health from pursuing his clerical duties, has laboured with great assiduity and success in the branch of rural economy to which he has devoted his attention. His work is the most recent and by many esteemed the best upon the subject of which it treats. The hive which bears his name, and which he invented and has spent so much time and money in perfecting, has a reputation so wide spread and well established that it is hardly necessary here to do more than allude to its excellencies.

The American Grape Grower's Guide, by William Chorlton, author of "The Cold Grapery." A. O. Moore & Co., New York, 1859. This is a popular little treatise of 171 pages, intended chiefly for those who desire to cultivate the grape under glass. It contains ample illustrations, and will be found very useful and instructive to those fond of cultivating the finest varieties for the table.

Acknowledgments.—We have received a pamphlet from Dubuque, containing the *Rules, Regulations and Premium List of the Iowa State Ag. Society* for the 6th Annual Exhibition, to be held at Oskaloosa on 27, 28, 29 and 30 September next;—also, the Schedule of Premiums, &c. from the secretary of the Maine State Ag. Society at its 5th Annual Exhibition, to be held at Augusta on 13, 14, 15 and 16 of September.

Catalogues Received.—Of Fruit and Ornamental Trees, from Messrs. E. S. Lee & Co. of Rochester, N. Y., and from Messrs Curtis & Co., of Maysville, Kentucky.

Southern Field and Fireside.—The first number of a new weekly bearing the title above and published at Augusta, Georgia, has been received. Mr. Jas. Gardner is the proprietor and it is published at the price of $2 per annum. It is a family newspaper of the first class; in typography and paper fully equal to the New York Ledger, but in utility of design and, judging by the present number, in value of contents, far superior. The single original letter of General Washington to Howell Lewis, published in this number, is more interesting than all the papers of Mr. Everett that have appeared in the *Ledger*.

We hail with great pleasure this spirited *Southern* publication, and hope it will receive the patronage it so justly merits. The literary department is under the charge of William W. Mann, Esq.; the agricultural, under that of Dr. Daniel Lee, so well and favourably known as an able writer upon agricultural topics, both when connected with the *Genessee Farmer*, at Rochester, N. Y., and more recently as one of the editors of the *Southern Cultivator*, at Augusta, Ga. The horticultural department is under the care of W. N. White, well known as the author of the work entitled "Gardening for the South." Among the names of contributors to the literary department we notice the names of Wm. Gilmore Simms, Mrs. Anna Cora Ritchie, and Madame LeVert.

Spergula Pilifera—the new Lawn Grass.—This is the name of a "dwarf, hardy perennial, tufted, Alpine plant, forming close compact wiry glass-like stems from a quarter to half an inch in height, at first erect, afterwards decumbent, clothed with closely-set green bristle-like leaves, which by permanent growth and occasional rolling, form an unbroken, level, velvet-like surface of the richest conceivable verdure, remaining uninjured in severe drought or intense cold, and assuming the same beautiful verdurous tint during the winter months as in summer." This new plant, if it shall prove to be in this country of the same character as in England, will prove a most valuable acquisition. Mowing lawns in that case might thereafter be dispensed with. We learn from the *Horticulturist* that plants of this grass have been received and are on trial in this country.

Quarterly Meeting of the Executive Committee of the Maryland State Agricultural Society.

BALTIMORE, June 7, 1859.

The Committee met pursuant to notice—Present, JOHN MERRYMAN, Esq., President, and Messrs. F. Cooke, Dr. S. P. Smith, J. C. Brune, G. R. Dennis, N. B. Worthington, J. H. M'Henry, William Crichton, O. Bowie, and James Mullikin.

The minutes of the preceding meeting were read—after which, Gen. *T. Tilghman*, Pres't of U. S. Agr. Society, who was present by invitation, made a statement respecting the result of his visit to the West on behalf of the U. S. Society, and spoke in warm terms of the exceeding liberality with which he had been met by the citizens of Illinois—offers from two of its cities having been made to the U. S. Society to hold its next Exhibition in their vicinity—that by the city of Chicago was accepted, and *the 12th Sept. next* was fixed upon as the time of holding the Show—this is one week after the Illinois State Show, which begins on the 5th, and two weeks preceding the Missouri State Show at St. Louis, which is to be held on the 26th of the same month.

The committee appointed to lease the show grounds reported, that they had renewed the lease to Mr. R. Moffitt, till 31st March, 1860, subject however to an agreement entered into between J. Merryman, Esq., Pres't of the Society, and J. Reynolds, Esq., Pres't of the Charles st. Avenue Co., to the effect that the said Company should have the privilege of opening Charles st. avenue through the grounds of the society, subject to certain conditions therein named. The report was accepted, and the Committee discharged.

The Committee appointed to visit Frederick, and confer with the County Society, relative to holding the next Annual Exhibition of the State Society, reported that they had accepted the proposition of the Frederick Society—who have agreed to enlarge their show grounds for the occasion, which will embrace about fifteen acres, and to furnish hay and straw free of cost to the Society. The report of the Committee was accepted, and the proposition to hold the next Show at Frederick was accordingly adopted.

A communication from W. Prescott Smith, Esq., Master of Transportation of the Balt. & O. R. R. Co., was received and read, as follows:—

MASTER OF TRANSPORTATION'S OFFICE,
B. & O. R. R. Co., Baltimore, 14th May, 1859.

JNO. MERRYMAN, Esq., *President Md. State Agr. Society, Ringfields, Cockeysville, Md.*

DEAR SIR: The President has consulted me with reference to your letter, asking certain facilities in connection with the next Annual Exhibition of your Society.

As it will be held at Frederick this year, instead of Baltimore as heretofore, it will devolve upon the Company a much greater amount of gratuitous service than on previous occasions, if we extend the same privileges as before, viz: the free transportation of Stock and Implements *for Exhibition purposes purely*, and their return free, if unsold and retained by the exhibitors. While this is the case, we fear it will also lessen our receipts from excursion passengers, without the number *from* Baltimore will be excessively large.

Nevertheless, the President has consented that all these facilities shall be granted, and in addition thereto, that yourself and Mr. Sands, the Secretary of the Society, shall be furnished with commutation tickets, entitling you to travel free between Baltimore and Frederick from this to the close of the exhibition. These tickets are herewith enclosed.

I remain, very respectfully yours,

W. P. SMITH, *M. of T.*

On motion, the thanks of the Committee were unanimously tendered to the President and Directors of the B. & O. R. R. Co. for the liberal offer made by them.

The premium list was then taken up; and the time for holding the Annual Exhibition was fixed for the 25th, 26th, 27th and 28th October, 1859.

The premiums offered in the several Departments, and the classifications adopted in 1858, were again determined on for the present year.

On motion, the sum of $50 was placed at the disposal of the Committee on Poultry, for discretionary premiums.

No change in the rules and regulations were made from the last year.

The judges were then selected, and their names will be published with the list of premiums, rules, &c., copies of which will be furnished by the Secretary as usual.

On motion, the next quarterly meeting of the Executive Committee will be held in the city of Frederick, on the first Tuesday in Sept., at 11 o'clock, A. M.

On motion, the Committee adjourned.

Test, SAM'L SANDS, *Sec'y.*

CHESTER CO. (PA.) AGRICULTURAL SOCIETY.—Officers for the ensuing year:

President—Isaac W. Van Leer.

Vice Presidents—Joseph Dowdall, M. B. Hickman, Dr. J. K. Eshleman, Col. Samuel Ringwalt.

Executive Committee—Lewis Sharpless, Thomas S. Woodward, Thomas W. Cheyney, Wm. Chalfant, E. James, L. P. Hoopes, J. Hannum, W. Hickman, C. W. Roberts, N. Garrett.

Cor. Secretary and Treasurer—J. Lacey Darlington.

Recording Secretaries—J. H. Bull, W. D. Sugar.

YORK COUNTY (PA.) HORTICULTURAL SOCIETY.—A meeting was held in York on the first of June, and a Horticultural Society organized.

President—E. Chapin, Esq.

Vice-President—Samuel Small.

Managers—Edward Jessop, J. C. Lauturette, and G. A. Heckert.

Secretary—Charles Garretson.

Treasurer—Benj. H. Weiser.

NORTH KENTUCKY AGRICULTURAL SOCIETY.—Officers elected at the meeting in May, at Maysville:

President—George L. Forman.

Vice Presidents—John S. Wells, of Mason county; A. J. Darnell, of Fleming county; Socrates Holbrook, Lewis county.

Recording Secretary—William H. Dixson.

Corresponding Secretary—T. A. Curran.

Treasurer—H. A Cochran.

On Liquid Manure.

We gave, condensed, in our last, a portion of the article on Liquid Manure, contributed by Prof. AUGUSTUS VOELCKER to the second part of the last volume (1858) of the *Journal of the Royal Agricultural Society of England*. We now give unabridged the concluding portion of that essay—

"ON THE CHARACTERS OF SOILS NOT BENEFITTED BY LIQUID MANURE, AND ON THE CAUSES OF FAILURE.

"Soils containing a fair proportion of clay, especially stiff clay soils, are diametrically opposed in their chemical and physical characters to those which are porous and sandy. Generally the more retentive and stiff soils contain not only the more common mineral elements which we find in the ashes of plants, such as lime, magnesia, soluble silica, sulphuric acid, &c., in sufficient abundance, but also the more valuable mineral substances, such as phosphoric acid and potash. They moreover possess in a high degree the power of absorbing ammonia from the atmosphere, and retaining it; and in addition to this ammonia, under good cultivation, the vegetable remains left in such soils in the shape of roots and leaves from former crops, yield plenty of organic food for plants. It is true that stiff soils are not always very productive, but generally speaking they contain within themselves all the elements of fertility, and it is only for want of proper cultivation that their productive powers are not fully developed.

Whatever the agriculturist may think of the Lois Weedon system of culture, the Rev. Mr. Smith certainly has the great merit of having shown with indefatigable perseverance and zeal that certain clay soils only require constant working in order to yield remunerative crops of wheat in succession for a number of years. This would be an utter impossibility if they did not contain a practically inexhaustible store of mineral elements of nutrition, and if they did not under his system of cultivation also provide an ample supply of organic food.

In illustration of this part of my subject, I may mention the following analysis, which I recently made of a soil and its subsoil of moderately retentive and naturally very fertile properties.

The soil and subsoil contained in 100 parts:

	Surface soil.	*Subsoil.*
Organic matter and water of combination*	4.26	2.10
Alumina	2.15	5.39
Oxides of iron	3.16	7.16
Lime	.77	.26
Magnesia	.13	1.22
Potash	.40	.48
Soda	.15	.28
Phosphoric acid	.12	.19
Chlorine	trace	trace
Carbonic acid	.31	1.79
Insoluble silicates and sand consisting of	88.31	80.24
Silicic acid	65.11	62.61
Alumina	9.36	14.55
Lime	—	.25
Magnesia	.50	.23
Potash	.25	1.77
Soda	.09	.11
	100.00	100.00
*Containing nitrogen	.162	.09
Equal to ammonia	.220	.11

Submitted to a mechanical analysis these soils furnished:

	Surface soil.	*Subsoil.*
Sand	76.16	56.15
Clay	16.09	41.79
Lime, Magnesia, &c.	1.37	.47
Organic matter	4.38	2.09
	100.00	100.00

The surface soil, it will be noticed, contains a considerable proportion of sand, whilst the subsoil contains less sand and more clay. We have here an example of a friable loamy soil resting on a stiffish clay subsoil.

It will be observed that the surface soil abounds in all the mineral matters which are required by cultivated plants, and also contains an appreciable quantity of nitrogenized organic matters. If we calculate the total amount of the available fertilizing substances for a depth of soil of only 10 inches, we shall find a quantity of mineral and organic fertilizing matters, in comparison with which the amount of manuring constituents supplied in 50,000 gallons of liquid manure appears altogether insignificant. I believe this to be the chief reason why little benefit results from the application of liquid manure to clay soils and fertile friable loams. It may be said, if these soils abound in available fertilizing substances, how is it that upon them ordinary farmyard manure is employed with advantage? To this objection I would reply: Farmyard manure, in the first place, is a more perfect manure than liquid manure, inasmuch as it contains a considerable proportion of soluble and insoluble phosphates which are very deficient in liquid manure, and, being a bulky manure, performs important mechanical functions that cannot be realised by the use of a liquid. In the second place, I would observe that the retentive physical characters of clay soils preclude the young plant from availing itself of the total amount of fertilizing matters dispersed through the whole mass of the soil. In fact, plants growing on stiffish soils feed only upon a very small proportion of the bulk of soil: whilst those grown on a porous sandy soil penetrate it to a greater depth and in every direction, and avail themselves of the manuring constituents uniformly distributed amongst a large bulk of soil by the agency of liquid manure. I indeed believe that little benefit would arise from the application of solid manure to clay soils, if it were possible to incorporate it with the soil as uniformly as liquid manure, and to the same depth to which the latter penetrates them. But decided benefit results from a good dressing with ordinary yard-manure, because, in fact, only a small proportion of the soil is actually manured, and because by the very bulk of the manure the physical and chemical characters of a portion only of the soil are so altered that in reality the plant feeds upon a new and artificially formed soil.

However, it is not every clay soil that encloses in its substance abundant stores of plant-food; there are poor clays as well as poor sandy soils, and it may be asked, Might not liquid manure produce a good effect upon sterile clay land? I do not think it would produce a very marked effect, for I conceive that the close texture, coldness, and want of porosity which characterize sterile clays, are opposed to the successful application of liquid manure. As just observed, only

a small portion of such soils can be penetrated by the tender roots of plants, whilst by far the larger part of the soil enriched by the liquid manure would be lost under these circumstances, and the small quantity left in the portion of soil penetrated by the roots cannot of course produce any very striking result.

Moreover, all clay-soils are generally more than sufficiently wet during the early part of the year; the additional quantity of water supplied in liquid manure renders them wetter still; and as much heat is absorbed during the evaporation of water, the injury done to the land by the resulting cold would not, I imagine, be counterbalanced by the small proportion of fertilizing matters supplied.

Again, clay soils, whether fertile or barren, and all land that is moderately stiff, like the majority of soils in England, must by a heavy dose of liquid manure be rendered closer. Such soils certainly would not be improved in their physical character by an excess of water. The use of liquid manure at a time when such land is more than sufficiently wet is therefore objectionable. But it is equally objectionable when stiff soils get too dry. In summer, soils of that description crack in all directions, and the liquid manure then runs through the cracks instead of passing through the soil, or it moistens the soil but very imperfectly. Much of the liquid manure is thus lost, and, moreover, injury is done by the insufficient proportion of manure that is absorbed by a thin layer of the surface soil, for it causes at first a more rapid development of the young plants, which receive a sudden check as soon as the small quantity of moisture is all evaporated.

We thus observe that, generally speaking, neither the chemical nor physical characters of clay soils, and others partaking more or less of the same nature, are favorable to the introduction of the system of liquid manuring. And since by far the greater part of the cultivated land in this country (*England*) is more or less retentive, I feel assured that liquid manure will never be extensively employed by British agriculturists, but that its use will be confined to land of a light porous character.

The experience of those who profess to have used liquid manure with much benefit on clay land may be regarded as contradictory to my views on the subject. But I would observe that, as far as I could learn, the application of liquid manure on heavy land, where it is said to have produced astonishing results, was always preceded by thorough draining, subsoil ploughing, deep cultivation, clay-burning, and liming, each of which processes is well known to effect radical changes in the constitution of heavy land. Bearing in mind the experience of Mr. Smith of Loiswedon, and others who have practically tested the utility of deep cultivation; and on the other hand the failures of those who have applied liquid manure upon land not previously improved by other process than thorough drainage, it appears to me, to say the least of it, doubtful, whether the improvements in such soils are due to the application of liquid manure, or to the processes of subsoiling, liming and burning. Any one of these processes effects a radical improvement in heavy land, and much more conspicuous will the improvement be if all three are resorted to in succession, which was the case in one instance that come under my notice.

In conclusion, I offer some remarks

ON THE MODES OF DISPOSING OF LIQUID MANURE.

With respect to the disposal of the liquid manure produced on a farm, I have come to the conclusion that on porous, sandy, naturally unproductive soils, the liquid excrements of animals are best disposed of, together with the solid excrements, by mixing both with much water and irrigating the land with liquid manure. Where plenty of water can be obtained at a moderate expense, and where facilities exist for irrigation by gravitation, so that no expenses have to be incurred for the erection of steam-pumping engines and underground pipes, I believe that this will be found incomparably the most effective and economic mode of manuring land.

But instances are comparatively rare in this country [England] where the liquid and solid excrements can be disposed of together with advantage. The question therefore arises, how should liquid manure be disposed of on clay soils, and on land such as we frequently find it, that is neither so stiff as clay nor so loose in texture as sand.

This question involves the consideration of several purely practical matters. Thus, for instance, the quantity of liquid manure produced on a farm must necessarily influence a farmer in his proceedings; if there are only a few thousand gallons of liquid manure produced, it will of course not pay to construct an expensive tank and lay down pipes, whilst on another farm it may be good policy to collect the liquid in a water-tight tank. Again, a proper answer to this question cannot be given, unless it is stated whether fattening stock or young cattle are chiefly kept on a farm, or whether the farm consists chiefly of arable or pasture land, or whether most of the fields are light or heavy, whether much or little straw is produced, and in what way the straw is disposed of with most benefit. Such and similar considerations must necessarily influence the arrangements for collecting and disposing of the excrementitious matters produced on a farm. Nothing, therefore, can be more absurd than to lay down a fixed rule for the management of liquid manure. On one of my agricultural excursions I remember having visited a farm where I found the liquid manure tank brim-full. On inquiry what was done with the tank liquid, I was told, "nothing." This appeared to me a strange answer, and I was half inclined to consider my host behind the times. However, knowing him to be a remarkably intelligent and thoroughly practical man, I did not jump at once to such a hasty conclusion, but endeavored to learn from him all the particulars which led him at first to erect a tank, and afterwards to allow the liquid manure to run over and find its way into the soil as best it could. The result of a morning's ramble over the whole of the farm, and an animated discussion afterwards between us, was, that I thought with my friend that the most practical mode of disposing of the liquid manure in this case, was to let it run away "as fast as it would." I trust I may not be understood as advocating this novel, and I believe by no means uncommon, method of dealing with the contents of liquid manure tanks on heavy clay farms. We cannot

avoid recognising in this practice a waste which, no doubt, may be avoided, but which, under peculiar circumstances, is an evil that is more economically endured than cured.

Disclaiming, therefore, the intention of laying down fixed rules for the management of liquid manure, and avoiding the consideration of many practical matters, I propose to point out, by way of example, one circumstance which I believe more than any other must affect the arrangements on a farm for disposing of the liquid excrements of animals.

There are three modes of disposing of the liquid excrements of animals on soils on which irrigation with liquid manure cannot be carried out with advantage:

1. Where the urine of animals is completely absorbed by litter in feeding-boxes.

2. Where the urine and drainings of stables, cow-houses, and pig-sties are collected in a small tank in close proximity to a *covered* manure-pit.

3. When the liquid excrements of domestic animals, the sewage of dwelling houses, drainage-water, and every kind of animal-refuse matter, are collected together in a water-tight tank of larger capacity, situated as in No. 2, close to the manure-pit.

I assume that the manure-tank in Nos. 2 and 3 is provided with a forcing-pump, by means of which the tank liquid can be spread over the solid manure, as occasion requires.

In no instance would I recommend that the liquid collected in the tank should be applied by itself. Manure, I believe, ought either all to be used in a liquid form or all in a solid state. I consider it decidedly a bad practice to employ separately the solid and the liquid excrements of animals.

The adoption of one or the other of these three modes of dealing with liquid manure must depend chiefly on the *supply of straw*.

On farms where no young stock is kept, and just enough straw is produced to provide fattening cattle and horses with the requisite quantity of chaff and a sufficient amount of bedding materials, I believe the best mode of disposing of the liquid and solid excrement is to make the manure in boxes.

In well-managed box-feeding there is no waste by drainage of the most valuable portion of manure, nor waste by evaporation of ammonia; the manure ferments regularly and slowly, and liquid and solid excrementitious matters, which are neither of them perfect manures when applied separately, are preserved together in the most admirable manner. But on many farms the whole of the manure cannot be made in boxes, for on some there is too *little* straw produced, and only some of the cattle can be kept in boxes. In other places the farmer has so *much* straw that he finds it difficult to dispose of; he can neither sell the excess to advantage, nor make it all into manure in fattening-boxes.

In the former case—that is, when straw is deficient—I would suggest that the urine of cattle should be conducted through iron pipes into a perfectly water-tight tank, placed in the middle of the dung-steading, or close to one side of it. Let the manure-pit be covered by a roof, supported by several upright poles. Such a roof might perhaps be cheaply made of asphalted felt—a material that is both water-proof and light. A roof made of this material would not, I imagine, take very stout posts for supports, and could be erected at quite a cheap rate. The four sides of this erection would be of course left open, so that the wind could sweep over the manure in the pit in every direction.

Care should be taken to prevent the water from the roofs of farm-buildings and cattle-sheds from finding its way into the liquid-manure tank. Unless the tank is perfectly water-tight, and the urine of the stables and cow-houses conducted through iron or stoneware pipes, it is hardly possible to exclude drainage-water. By adopting this course, only the urine of cattle, saturated more or less with solid excrements, will find its way into the tank, and a comparatively small quantity of liquid will collect in it. The liquid, being concentrated, will rapidly enter into fermentation, and will lose ammonia by evaporation. It is, therefore, desirable that some oil of vitriol be poured into the tank from time to time, or whenever a pungent smell is discernible. According to the size of the tank, five to ten pounds of oil of vitriol may be poured into it perhaps every two or three months. By this inexpensive and most effectual mode of preventing loss in ammonia, the manure may be wonderfully improved. The solid manure in the pit, being sheltered against rain, rapidly gets drier, for during the fermentation of dung heat is developed, which is spent in the conversion of a considerable portion of the water of the manure into vapor.

As it is of much consequence to ferment manure with regularity, and fermentation is almost altogether stopped when excrementitious matters and straw are completely immersed in water, it is advisable to give the dung pit a somewhat inclined position, and to lay down an iron pipe close to the bottom of the pit, and to carry by this means any excess of liquid back into the tank. If this arrangement be adopted, the liquid in the tank may frequently be pumped over the manure in the pit without doing any harm, which it would be sure to do if no provision were made for the excess of liquid to drain back into the tank. This is of particular importance on farms where cattle, for want of straw, are insufficiently littered, and the manure consequently is very wet. The bulk of the solid manure, as well as the quantity of absorbing materials, might be considerably increased if coal ashes, dry saw dust, and dry refuse matters of every description, and even dry earth, were thrown upon the manure heap; and I feel convinced that, with a little care and management, the whole of the liquid excrements might gradually be absorbed and incorporated with the solid manure and litter.

The third plan of disposing of liquid manure is most beneficially adopted on farms upon which much more straw is produced than can be sold or consumed in feeding-boxes. On many farms in the neighborhood of Cirencester it is impossible to convert in boxes the excess of straw into manure. There is not sufficient moisture to rot the straw.

On our own farm we have so much straw in the manure that it would not ferment properly if it were not exposed in the manure-pit to the rain that falls, and if it were not besides moistened with the sewage that flows from the College into

the liquid-manure tank. Where there is an excess of straw, no difficulty exists of disposing of liquid manure, since the straw is capable of taking up more liquid than is supplied in the urine of animals. For this reason it is of no use to erect a roof over the manure-pit on farms where a large excess of straw is employed in the making of manure. On such farms I think no sensible man would contemplate for a moment the introduction of the system of liquid manuring.

Royal Agricultural College, Cirencester,
December, 1856.

The Grape.

The quality of a particular vegetable is not unfrequently affected by external influences, so that it assumes a different character, which is distinctly imprinted upon the leaves or other parts, and may even to a certain extent be perpetuated. This property for the most part belongs to all organic bodies, and may be observed equally in the animal as in the vegetable kingdom. The dog is always a dog, but the Newfoundland and the lap dog, the sheep dog and the greyhound, differ from one another in no small degree. The cow is everywhere a cow, but differs in form in every part of the earth in which she is found.

Plants being still more dependent upon external influences than animals (which are restricted to no particular place,) exhibit this peculiarity in a very high degree. The varieties of geranium, pelargonium, of the rose and dahlia, which belong nevertheless to one genus, are unlimited.

The difference is often impressed still more markedly upon the fruits which the plants produce.

There is, indeed, an identity in the nature of apple trees; but any one, however ignorant of botany, can distinguish numerous varieties of this fruit, varieties not only of form and size, but also of colour, taste, and smell.

The vine ranks among those plants which are very dependent (at least in so far as regards the fruit it produces) upon external influences: colour and size, form and taste, aroma and productiveness, vary in this case in so remarkable a manner as might lead one almost to regard the vine as a peculiar gift of the Creator's bounty.

Should the reader wish for an example of the immense variety of vines, we will only remind him that Chaptal, when Minister of the Interior, caused 1400 different species of vines to be transplanted out of France alone into the garden of the Luxembourg.

The like variety may be observed not only in grapes which have been grown in different parts of the earth, but even in those produced in the same country, and growing on the same spot.

And, indeed, though less strongly marked, we may perceive a like difference even in the grapes of one vine. Protect one cluster of grapes from too great exposure to the action of the sun, and cover it with a bell of dark glass, or with oiled paper, while you leave another exposed, and you will produce a much more finely-scented fruit in the former than in the latter.

It is not, therefore, strange that the grapes which grow on the sunny side of the Johannisberg should be very superior, as far as the flavor and fragrance of their juice is concerned, to those produced on the opposite side of the mountain; nor that, in general, a hotter and stronger wine is produced in warm regions than in such as are cold or temperate. If we add to this, that the peculiar nature of the soil, its constituents, the influx and drainage of water, the lightness or stiffness of the ground in which the roots spread: that further, the dryness or dampness of the air, and the change or equality of temperature, exercise a well known influence upon plants and the fruits produced by them, we shall at least have a general idea of the varieties of the juice which constitutes the principal element in these berry-bearing fruits.

It is, moreover, sufficiently known that there is a general difference in the colour of grapes, between black, purple or red, and white; the juice of both is colourless, and colourless wine can therefore be obtained from both. If the black, purple or red grapes are pressed, and the skins thrown aside, a colourless wine, which in substance equals that procured from the juice of the white grape, is obtained by fermentation. I say substantially, for the variety in the juices, which even a slight difference in the external influences occasion, would effectually prevent the one fermented liquid from equalling the other in flavour and aroma. Or is it, perhaps that the heat of the sun penetrates more thoroughly the purple grape, while its dark skin partially preserves it from the action of light?

Is then the same chemical action possible to the juice of the purple grape (enclosed, as it were, in a small bladder) as that which is produced in the juice of the white grape by the difference between these two powerful influences, heat and light? We know that in our regions, the white grapes are much sweeter than the purple, and ascribe this peculiarity to the difference of the plants, but forget that in the easier passage of the light through the colourless skin of the white grape we possess a sufficient explanation of a more powerful chemical action, the result of which may be a larger formation of sugar. And if we generally find the purple grapes inferior in flavour and smell, we must ascribe this circumstance to heat, which in this case penetrates more easily the skin of the grape, and which in all living things is a powerful means of exciting chemical action. The principal component of the weight of the juice of ripe grapes is (in proportion to the weight) water, in which are various substances, either held in solution, or very minutely divided. As the juice is obtained by pressure, it is thick, and exposure to the heat of the sun changes it very quickly into a fermented liquor. As principal components we find in the juice sugar (both grape sugar and fruit sugar,) gelatine, or pectin; gum, fat, wax, vegetable albumen, vegetable gluten, and some other substances of the nature of extractive matters, which are not, however, accurately determined; tartaric acid quite free, and combined with potash, as cream of tartar, partly also combined with lime; in some cases we find also racemic acid, malic acid, partly quite free, partly combined with lime (Berard,) according to some, tartrate of potass and alumina; further, oxide of manganese and oxide of iron, sulphate of potash, common salt, phosphate of lime, magnesia, and silicic acid may also exist.

Up to this time no other ingredients have been

discovered in the juice of the grape, but other materials must exist in it in small quantities, those, namely, which appear during fermentation, and impart to the fermented liquor, or at least tend essentially to produce not only the vinous smell common to all wine, but the aroma (bouquet,) and the flavour respectively peculiar to each wine, in almost unlimited variety.

In cases where the skins are allowed, as in the preparation of red wine, to ferment with the juice, the elements which impart odour and flavour may be drawn from them.

But experience has not sufficiently decided even this point. What we know with certainty is, that colouring matter, as also tannic acid, may be extracted from the alcohol developed during the process of fermentation; colouring matter and tannic acid are, therefore, equally formed in the skin, and dissolved in equal quantity in the wine; so that, in general, the more the red wines contain of colourless tannic acid, the darker they will be, that is, the more do they hold in solution of the colouring matter of the purple skins.

It is, therefore, possible to prepare lighter or darker colored red wines, and to impart to them more or less tannic acid in proportion to the greater or smaller quantity of purple skins allowed to ferment with their juice.

As we shall have occasion hereafter to treat in detail of the colouring matters and of the tannic acid, we will only mention here, that the first are always simple; it is a blue matter, which, by means of the free acids of the wine, acquires a peculiar reddish colour. What other matters can be extracted from the skins, when these are allowed to ferment with the juice, is not known, but it is certain that the tannic acid in wine is derived principally from the skin; so that such wines as are prepared from fermented juice alone, without any admixture of skins, contain either none, or at best only a doubtful trace of its presence.

If the skins are allowed to ferment, the grape stones will not be excluded from fermentation, for in general one may take it for granted that an incomplete flirtation of the expressed fluid will allow a large number of grape stones, richly provided with tannic acid, to ferment with it.

In those cases, therefore, where the fruit is allowed, after pressure, to ferment with skins, stones, and juice; or where the grape stones in larger or smaller quantities are included in the fermentation, a certain quantity of tannic acid may be obtained from them, although the amount, owing to the hardness of the covering of the seeds, will be but small. The same holds good with respect to the stalks of the grapes, which contain a good deal of tannic acid, and are often allowed to ferment.

Looking at wine, then, from a chemical point of view, the vine, with all its constituents, deserves our consideration in the first place.

The organic components of the wood are the common ones. Science is not, and perhaps never will be in a position to bring the structure of plants into connection with the nature of their products. But what it can do, and in modern times has earnestly endeavoured to achieve, is to investigate the organic constituents, and the relation between the necessary ingredients of the soil, and the nature of its vegetable products.

All wines contain cream of tartar, a salt which consists of tartaric acid and potash. The quantity and quality of the grape juice is connected, therefore, with the existence or non-existence of potash in the ground. Potash preponderates in the whole plant, and in all its parts, in the leaves and fruits, and also in the stem and boughs. If, therefore, a sufficient quantity of potash does not exist in the soil, in addition to those other ingredients, which are equally necessary, the vine will not flourish. Further, with respect to the nature of the soil, the components of the ash, which are necessary to a successful development of the plant, must be found in it in sufficient quantity. The first condition necessary to the obtaining of good grapes is, that the plant should be well developed.

We need not, however, confine ourselves to this general direction, but can point out, with great accuracy, in many isolated cases, the important services which the incumbustible constituents render.

With respect to the wine, we may observe, first, that certain of its peculiar properties, both of colour and taste, are connected with the quantity of the potash, soda, lime, magnesia, iron, manganese, sulphuric acid, phosphoric acid, and chlorine, which exist in it in larger or smaller proportions. The different proportions of these inorganic matters exert a very great influence upon the quality of the wine. If, for example, a good deal of phosphoric acid is contained in the grape juice, and a smaller proportion of lime, during the fermentation of the juice, a good deal of lime and magnesia (the latter as phosphate of ammonia and magnesia) will be thrown off.

The sulphuric acid and the chlorine are not withdrawn, they combine with potash and soda, with potash, which formed part of the cream of tartar in the grape juice. The tartaric acid then appears in the wine, which did not exist as free in the grape juice; or, to speak accurately, more free tartaric acid exists in the wine than was present in the grape juice. The wine acquires a harsh or sour taste, and if it be red wine the color is brighter, and many other properties are developed, which we shall have occasion hereafter to mention more particularly. All this is merely the result of the grape juice containing more phosphoric acid. And in like manner a larger proportion of lime or soda will cause other changes.

In order to explain the numberless varieties which exist among wines, it is necessary not only to take into consideration the so-called ash constituents, but to begin with the composition of the soil, and follow it through the different parts of the vine into the juice, and then pursue it afresh through the process of fermentation till the wine reaches us at table.

The quality of the soil may differ considerably without having a decided influence on the quality of the wine. *Payen maintains that wine of very good quality, but of dissimilar bouquet, may be obtained from very different soils. The best Burgundy comes from a clayey lime soil; Champagne from a more thorough lime soil; Hermitage from a granite; and Chateauneuf from a sandy soil. A slaty soil produces Vin de la

* Precis de Chim. Indust. 1859, p. 356.

Gaude; a sandy one, Graves and Médoc, and a slaty one, the wine of Lamalgue, near Toulon.*

This variety of soil might lead one to imagine that all soils are equally suited to the cultivation of the vine. Such, however, is not the case; but as it is possible on the one hand that the principal constituents may be the same in apparently different soils, so, on the other hand, by the addition of vegetable matters, the difference of the soil may be adjusted or compensated. Inorganic vine manures are as important to the plant as the soil itself. The organic manure is also of consequence to the plant; if it is very nourishing, a larger quantity of wine will be produced, but the wine will not be so well scented nor so well tasted.

It is remarkable that fetid manures, such as fecal matters and the mud of great towns, exercise a very prejudicial influence on the odour of the wine, while, on the contrary, manures which are inodorous and putrefy slowly, such as wool, horn, and bone black, conduce very much to its fragrance. The putrefying organic substances of the manure pass in such large quantities into the plant, that they are observable in the fruit, as, for example, in the cauliflower of the Westland, the smell of the putrid fish which is used to manure it can be recognized.

The publication of these facts at a time when it is asserted that plants do not bear a single trace of the organic constituents of the soil, is not without danger, but I venture nevertheless to allege them. I venture also to maintain, that no wine-grower who prepares good wine, would give his vines putrid manure, although it has become the fashion among scientific writers to copy from one another the assertion that plants take up from the earth only carbonic acid, water, and ammonia, and prepare from them all organic substances. The leaves of the vine, which contain a considerable quantity of alkali, constitute an excellent manure for the plant. At the vintage only the fruit is removed from the field, and the leaves fall to the ground, when their ashes necessarily compose the best manure for future vine leaves.

Only in this manner can the fact be explained, that the vine requires so little inorganic manure, and often contents itself with substances which it obtains principally from the weather-beaten rocks on whose slope it is planted.—*Mulder's Chemistry of Wine.*

CHRISTIAN CO. (KY.) AG. ASSOCIATION.—*President*—J. A. Phelps.

Directors—J. C. Whitlock, A. D. Rogers, J. W. Fields, J. Wallace, L. W. Withers, C. M. Tandy.

CENTRAL KENTUCKY STOCK, AG. AND MECH. ASSOCIATION.—Next fair at Danville and commencing on first Tuesday in September, will continue four days. *President*—J. Whelan.

* According to Peretti, iron and copper are found in the wine produced near Rome. (Journ. de Ch. Med. 1844, p. 98.) Peretti has convinced himself that these metals were not admitted during the preparation of the wine. He evaporates the wine, burns the residue, and extracts the ashes by means of nitric acid, in which the metals are held in solution. Iron is known to exist in wine, and is therefore not remarkable; but up to this time no one else has asserted the presence of copper.

Agricultural Machinery.

BY PATUXENT PLANTER.

MESSRS. EDITORS: I congratulate you upon the promised improvement of the old "*Farmer*," and hope you may reap a rich reward for your efforts to keep up with the growing wants, intellectually, of your peculiar class of readers. Every day I live, I feel an increase of devotion, a higher pride, and a greater zeal in my honorable pursuit. To Agriculture the great energies of mankind have at last been turned. The world of intellect has at last discovered its high importance, and daily contributes to its advancement. Statesmen deem it worthy of their constant attention; soldiers look to it as their chief sinews in war; poets praise it, and embrace its beauties to heighten their inspirations; philosophers and philanthropists consider the science and its products as the greatest lever that can be used to secure a world-wide civilization. Inventive genius has done, and is daily doing, much to lessen the burthens of labor, and increase the products of the earth, at the same time diminishing manual labor. Mind and genius, by the mechanism of wood and iron, have triumphed over matter, and machinery has supplied motion and human manipulation, that from the precision of its varied actions, would justify almost the thought, it had been also endowed with human reason. Such inventions I deem it important that workers of the soil should be made acquainted with, and therefore I write this article to call public attention to a few comparatively new, and worthy of notice.

Spear's Patent Corn-Husker: patented 1858, 14th of September. The following endorsement it is but justice to say, was published in the "*Scientific American*," after the editor had thoroughly tested the practical working of the machine with his own hands:

"When one watches a husking party—either one that means pleasure or one that means work—the impression left on the mind of the beholder is that it is a very simple and easy thing to do; but it is really difficult and slow. It is, therefore, with a feeling akin to astonishment that the same person would look at many of the machines which have been devised by the ingenuity of inventors to perform the same operation. 'Is it possible,' such an individual would inquire, 'that it can take so much machinery to do so simple a thing?' And the only answer that could have been given would be a half melancholy 'It seems so.' We are happy, however, to describe a corn-husker that is really simple, as a description will convince the reader; in fact, it is so simple that there can scarcely be said to be any description about it.

"A small frame of rectangular form is the stand from which rise two uprights carrying between them a conical roller, C, and a toothed cone, B, laid the one on the other in elastic journals, their narrow ends together. The cone, B, is roughened or studded with small spikes, and is formed of cast iron; the roller, C, is nearly or quite smooth. On the axle or arbor of B is a crank and fly-wheel, A, by which the device is operated, the fly-wheel enabling a good speed to be attained. An inclined board, D, is placed between the feeding board and the rollers; this is placed between the sides so as to swing freely up

and down. The operation is so easy that any one can use the machine. The ears of corn are placed with butts lying in the same direction, and they roll down the board to the rollers, which, catching hold of the husk pulling it cleanly off; and another ear coming down the yielding board, depresses it, and allows the husked ear to fall down the shoot, E, into a basket, or other receptacle, while the unhusked one takes its place and is very rapidly husked. This machine in no way injures the corn, but leaves the ear perfectly free from husk or fibre, ready for the market or the mill.

"We will state that we have examined the working of Mr. Spear's Husker, on various occasions, in company with prominent agriculturists from various sections of the country, and we do not hesitate to award to it our commendation. It is constructed so as to be run either by horse and steam power, or by hand; and by the latter method, one person can turn and feed with sufficient rapidity to husk 40 ears per minute."

The cost of this beautiful and simple machine is only ten or fifteen dollars, thus bringing it within the range of every corn-grower.

Kirby's American Harvester and Mower Combined recommends itself strongly to husbandmen from its *low price*, strength, durability, light draft, and the ease with which the driver can, by means of a lifter, elevate or depress either end or both ends of the finger-bar to pass over obstructions, or carry his swaths. I never have owned one, but have examined it thoroughly, and had my opinions confirmed by the practical working of it on the farms of several highly distinguished agriculturists who have tried several other machines.

Patent Wire-Fences are destined to work a revolution in enclosures, to add to the security and beauty of fences, and to save an incredible amount of cost, both in money, time and labor. E. Whitman, Esq., of your city, is the agent for their sale in Maryland.

THE HORSE FAIR NEAR NEW ALBANY, IND.—The fair of the Floyd county (Ind.) Agricultural Association for the show of horses and display of flowers, was held on Thursday, Friday, and Saturday, the 2d, 3d, and 4th, of May, on the grounds near the city of New Albany. The fair grounds are one half mile from New Albany, and convenient for those who prefer vehicles, but the crowd reach it by the cars of the New Albany and Salem railroad, for the moderate fare of five cents.

The grounds comprise sixty-two acres, which are enclosed by substantial plank fence, nine feet in height. With the improvements, up to this time, $13,000 has been expended for buildings, &c., and the association does not owe a dollar.

The stock is in shares of $25 each. No member is allowed to own but one share, and proxy votes are inadmissable. No officer, excepting the Secretary, who is paid $200 per year, receives compensation. All generously donate their services for the glory and honor, asking no profit. The exhibition of the first day was confined exclusively to Indiana horses; that of the second and last day was open to horses from other states.—*Louisville Courier.*

Strawberries.

We have been favoured several times during the Strawberry season with ample supplies of that fruit from *Atholwood* the residence of Mr. J. Q. Hewlett, of such remarkable quality, as to size and flavour, and so abundant, judging from the liberal basketsfull we have received, that we were induced to get from Mr. O'Leary, the Gardener, his manner of cultivation. It will be observed that it is a specimen of what will be called high culture. The use made of the foliage is in keeping with the practice of vine-dressers in the management of the vine. It may be remarked too that this Strawberry bed has been fourteen years in bearing, and its abundant yield indicates that the quality of "running" away from its place, for which the strawberry is remarkable, is not based upon the principle once so prevalent that a plant poisons the spot upon which it has grown for a length of time, for its own kind, but upon this, that being a large consumer of certain elements, it seeks by change of place a new supply. When these are given in abundance, we find them as in this fourteen year bed, thriving and bearing in great perfection. It indicates too that rotation of crops, while always economical, is not an essential of agriculture. The following is Mr. O'Leary's statement:

In the latter part of June or first week in July cut down all the leaves and runners close to the crown of the plants, but be careful not to injure the crown by cutting too close. After having finished cutting spread the leaves evenly over the plants, and leave them remain on five or six days, so as to prevent the crown from becoming injured by the sun. At the expiration of five or six days the young leaves will begin to grow. Rake off all the leaves and runners into the alleys, and give them a thorough cleaning of weeds: then cultivate all the leaves and runners into the alleys, and let them remain so until the first or second week in October. Give them then a good covering of wood ashes and bone dust, and a good cultivating, and let them remain so until the latter part of March or first week in April. Then give a good top dressing of 400 lbs. Peruvian Guano to the acre, and cultivate the alleys well. The bed ought not to be disturbed under any circumstances when it begins to blossom.

STEPHEN O'LEARY,
Gardener.

June 10th, 1859.

SOUTH KENTUCKY AGRICULTURAL ASSOCIATION.—Their next fair will be held at Glasgow on 27, 28, 29 and 30 September. Officers for ensuing year:

President—J. R. Barrick.
Vice-President—W. M. Winlock.
Treasurer—T. G. Moss.
Secretary—George Cake.
Directors—W. J. Wood, C. B. Hutchinson, W. H. Edmunds, Z. R. Huggins, G. B. Ellis.

Baltimore Markets, June 16th.

Cotton.—The market has improved, and holders have advanced prices. Sales of the week past at 12a13 cents for middling to good middling Uplands, at which the market closed firm. Receipts, 305 bales from Mobile, 162 from Savannah, and 120 from Nassau, N. P.

Feathers—Are in fair demand at 40a48 cents per lb., as to quality.

Fish.—North Carolina Shad $12.25a$12.75; do. Herrings $7.50a$8; Eastern Herrings $3a$4; for No. 1 Mackerel $16a$17; Fo. 2 do. $15a$16; large 3's $9a$9.50 for old, and $10a$10.50 for new, and small $7a$7.50 per bbl.; Labrador Herrings $4.50a$5.25; Salmon, No. 1 $26a$28, in trcs., and $16a$18 in bbls.; Hake $2a$2.25; Alewives $5.50a $6; Codfish $3.25a$4; box Herrings 25a40 cents for scaled and 15a25 cents for No. 1 per box.

Flour and Meal.—The Flour market is quiet but firm.

Howard Street Super.—The market firm at $7.12½ for fresh ground, and $7 for old do.

Ohio Super.—$7a$7.12½ per bbl. Fresh ground held at $7.12½, and old do. at $7 per bbl.

City Mills Super.—Fresh ground at $7 per bbl.

Family and Extra Flour.—$7.50a$7.62½ for Ohio; $7.75a$8 for Howard street, and $7.87½a $8.12½ for City Mills. Family, for local consumption, is still selling, by the single dray load, at $9.25 for Baltimore and Welch's.

Rye Flour.—Sales by the dray load at $5a $5.12½ for first quality.

Corn Meal.—We quote City Mills at $4.25, and Brandywine at $4.50 per bbl.

Grain.—Wheat—white $1.60a$1.70 for fair to good; $1.75a$1.80 for prime, and $1.85 for choice; and red at $1.55a$1.63 for fair to choice. Corn—white 82a84 cents, measure, and yellow at 83a85 cents, measure, and 85a87 cents weight. Oats—Maryland and Virginia 42a45cents, and Pennsylvania 46a50 cents per bushel for fair to prime. Rye—Pennsylvania 92a95 cents per bushel; Md. and Virginia 83a85 cents per bush.

Guano—Is in moderate demand; we quote, for small lots from dealers as follows: Peruvian $62; AA Mexican $22; white do. $28a$30; Nevassa $26 per long ton; California $45, and Patagonia $30 per short ton, in lots from dealers.

Hay and Straw.—$14a$16 for good to prime baled Timothy; $12a$14 for loose do.; Clover $10a$12; Rye Straw $13a$15, and Wheat do. $9a$10 per ton.

Provisions—Very dull, excepting for jobbing lots Bacon for the South. Pork—No sales of Western Mess; we quote at $18a$18.25. To-day we notice a sale of 150 bbls. Western Prime at $14.25; we quote do. Rump at $13a$13.25 per bbl. Bulk Meat—We quote Shoulders and Sides at 6¼a8½ cents, and Hams at 8½a8¾ cents per lb. Bacon—Sales of some 300 hhds. Shoulders and Sides, in small lots, at 7¼a7½ cents, and 9¼a9½ cents per lb.; 40 tierces plain Hams at 10 cents, and some 2000 pieces do. in small lots, at 10a10½ cents per lb., and 11¼a12½ cents for sugar-cured. Lard—we quote prime Western at 12 cents; butchers' at 11¼a11½ cents, and refined at 13½a 14 cents per lb., no sales excepting small lots refined—demand very limited.

Butter.—Western solid packed 11¼a12½ cents; Glades 12½a15 cents; Roll 12a14 cents; N. Y. State 15a17 cents, and Goshen 16a18 cents p lb. Eggs—16a17 cents per dozen for fresh s lected.

Cheese.—Some small lots new Western cattle have reached market, but there is no demand yet for this description; we quote at 8¼a9½ cent per lb.; Eastern do. is in moderate demand 9¼a10½ cents per lb.

Tallow—Dull at 11 cents for city rendered, 10½a10¾ cents for Country do., and 7 cents p lb. for rough fat.

Tobacco.—For the better descriptions of Maryland there is a good demand at full prices; common do. are dull. Common $3a$3.50; good common $4a$4.50; middling $5a$5.50; good to fine brown $6a$10; ground leaves $3.50a$4. Ohio is in fair demand, especially red and brown; prices firm as before quoted, viz: Inferior to good common $5a$6; red and spangled $6.50 a$7.50; good and fine red $8a$9, and good and fine yellow $10a$14. Kentucky continues very dull; no sales worthy of mention and prices may be quoted lower, viz: Mason county $4.25a$5 for common lugs to choice leaf, and heavy Kentucky $5a$12.50 per 100 lbs.

Wool—Is in fair supply and demand—Unwashed 22a24 cents; tub-washed 32a34 cents; pulled 30a33 cents for No. 1, and 35a38 cents for Merino.

Baltimore Cattle Market, June 16th.—*Beef Cattle.*—The offerings at the scales to-day amounted to 1,050 head. Of the number offered, 400 head were driven to Philadelphia, 100 left over unsold, and the remainder purchased by Baltimore butchers at prices ranging from $5.50 to $8 per 100 lbs. gross, and averaging $4.87½. The market was dull and void of animation.

Sheep—The supply fair, with a good demand; sales at $2.50a$3.75 per head.

Hogs—The supply fair, with steady prices; sales at $8.50a$9 per 100 lbs., as to quality.

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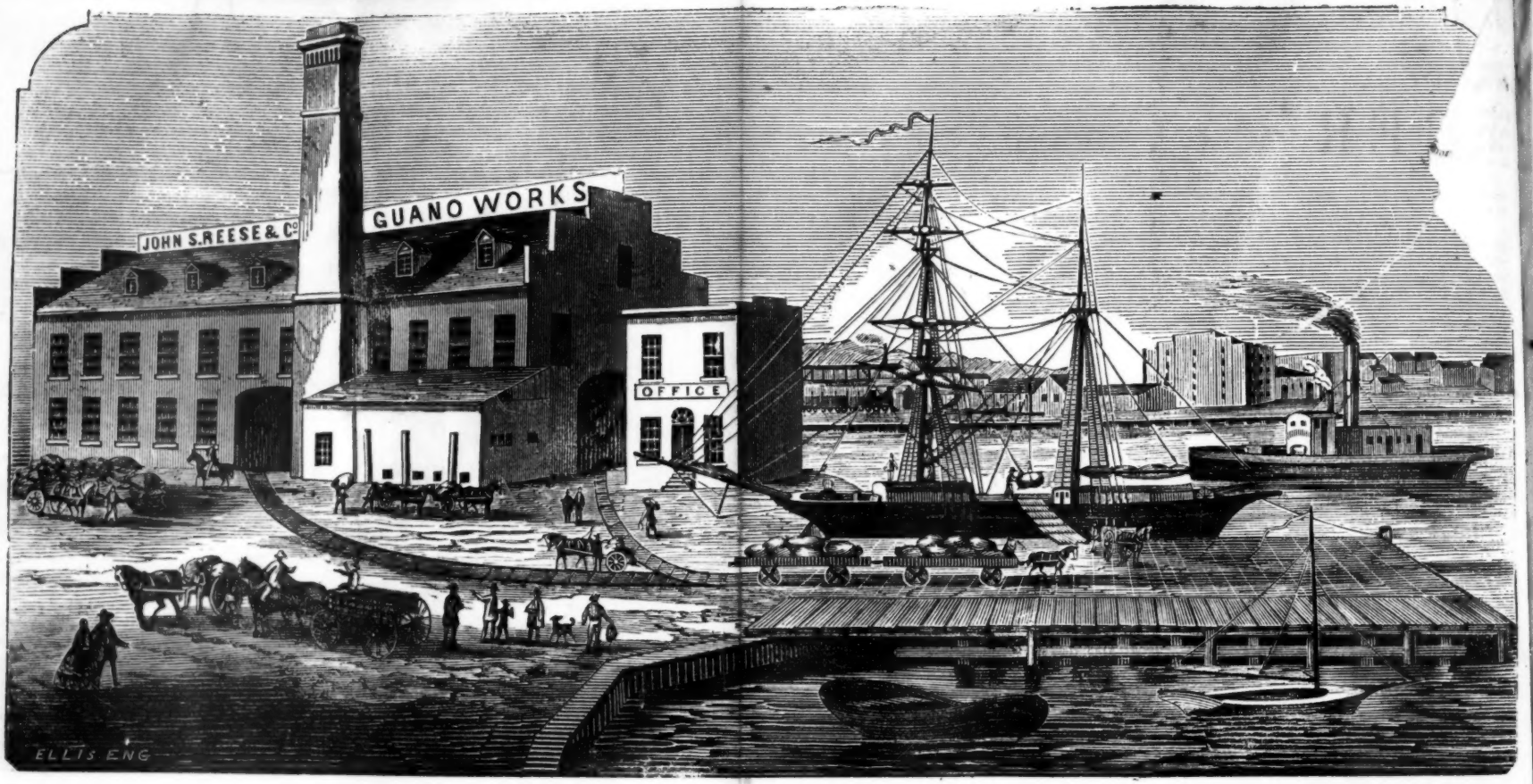

REESE & CO'S PHOSPHO-PERUVIAN (OR MANIPULATED) GUANO WORKS.

DESCRIPTION OF JOHN S. REESE & CO'S NEW STEAM PHOSPHO-PERUVIAN (or Manipulated) GUANO WORKS.

Notwithstanding our extensive facilities last fall, for the preparation of our Guano, many farmers were unable to secure supplies, because of the very large demand, it having far exceeded our anticipations. In order to prevent a recurrence of the same difficulty we have constructed and removed to our *new works*, of which the above engraving is a representation.

We have now made such additions and improvements, that we are able to furnish any reasonable demand. The works are located on the corner of Wolf and Lancaster streets, fronting 350 feet on the latter, 100 feet on the water's edge, and 100 feet on Wolf street, covering a space of 35,000 square feet.

The machinery is driven by two steam engines of the capacity of 60 horse power. The guanos for manipulation are conveyed to the second story of the building by two elevated railways, the cars being drawn up by steam power. It is then put through the process of manipulation by machinery, and coming out on the lower floor, is bagged and weighed.

Our facilities for loading vessels and shipping, at the least possible expense to consumers, are perfect. Having constructed a truck railway from the main building to the end of the wharf, the guano is loaded on cars, which are run along-side vessels with the greatest dispatch. But little handling being required, the bags are delivered in perfect order.

Our works are in all respects the most extensive and complete in the country. An experience of four years in the business has enabled us to make such improvements in machinery as to render our article superior to any thing of the kind offered, apart from the quality of the guanos used in its composition. It cannot be successfully imitated.

Having nothing to conceal from the public eye, we invite farmers coming to the city to visit our works, and see for themselves the kind and quality of the guano used by us. Cards of admission will be furnished at our Office, No. 77 South Street, over Corn Exchange.

Our Guano, as is well known, is composed *exclusively* of Peruvian and Phosphatic Guano, *one-half each*. The Phosphatic Guano used is the "*Sombrero*," which uniformly contains an average of 75 *to* 80 *per cent. Phosphate of Lime*. This Guano, with Peruvian, reduced to an impalpable powder and *uniformly* and *intimately* combined in above proportions, must produce the best and most permanent fertilizer known. This has been the experience of its use for four years.

JOHN S. REESE & CO., BALTIMORE.

(*See Advertisement.*)